Northern California's Computer Magazine

Mar. 7, 1994 • #120

FREE

MICROTIMES™

From Mac

Bill Atkinson: "I think the opportunity is just like with the Macintosh. With or without General Magic, there will be little pocketable electronic communicators that merge telephony and messaging. How is that going to feel?

Multi Media & beyond

Gulch Gossip, Quadra AVs, Commodore's CD32, ndows Accelerators

LA Computer Fair

To (General) Magic

Mac Pioneers Develop Communications For Humans

COMPAQ

COMPAQ

486SL–25MHz

CONTURA 4/25 MOD 120/W+
120MB NOTEBOOK

486SL-25MHz CPU • 4MB RAM • 120MB • Hard Drive • 3.5" 1.44MB Floppy Drive • LCD Display • Fax/Modem • Pointing • Device • MS DOS MS Windows • Easypoint

#1866887

$1999

COMPAQ

486SL–25MHz

CONTURA 4/25C-209W
209MB COLOR NOTEBOOK

486SL 25MHz CPU • 209MB Hard Drive • 4MB RAM • 3.5" 1.44MB Floppy Drive • 8K Cache • Serial/Parallel • Advanced • Passive Matrix Color MS Windows • MS DOS • Pointing Device

#1866898

$2999

COMPAQ

486SL–25MHz

CONTURA 4/25 CX 209/W
209MB ACTIVE MATRIX
COLOR NOTEBOOK

486SL-25MHz CPU • 4MB RAM • 209MB • Hard Drive • 3.5" 1.44MB Floppy Drive • Active Matrix Color • MS DOS • MS Windows • Easypoint

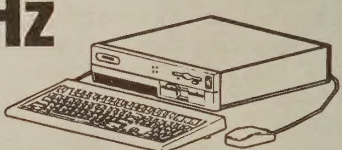
#1866876

$3699

COMPAQ

486SX-33MHz

PRESARIO 633
200MB SYSTEM



486SX-33MHz CPU • 200MB Hard Drive • 4MB RAM expandable to 32MB • Dual Floppy Drive • Local BUS video graphics • 3 ISA expansion slots • 3 drive bays • Intergrated fax/modem • **Preinstalled software:** MS DOS • MS Windows 3.1 • COMPAC Mouse PFS: WindowWorks 2.0 • Delrina WinFax Lite • Prodigy • America On-Line Symantec Games Pack

Monitor Not Included

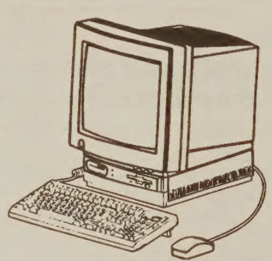
#1866913

$1299

COMPAQ

486SX-25MHz

PRESARIO 425-200
200MB SYSTEM



Intel 486SX-25MHz CPU • 200MB Hard Drive 4MB RAM expandable to 20MB •3.5" 1.44 Floppy Drive • Two ISA expansion slots • Voice Mail Fax/Modem • Mouse Built-in SVGA Display • MS DOS • MS Windows MS Works

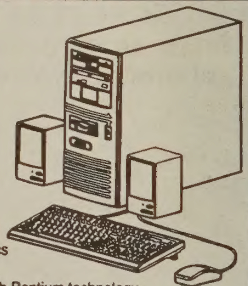
#1866902

$1299

COMPAQ

486SX-33MHz

PRESARIO 833 CDS
270MB MINI SYSTEM



486SX-33MHz CPU • 270MB Hard Drive • 4MB RAM expandable to 56MB • Dual Floppy Drive • CD ROM drive (Dual-Speed) • SoundBlaster 16 Audio Board • External speakers and microphone • Local BUS video graphics 4 ISA expansion slots • 5 drive bays • Intergrated fax/modem Supports Intel OverDrive processor(486DX2/66), as well as future OverDrive processor with Pentium technology • **Preinstalled software:** MS DOS • TabWorks • MS Windows 3.1 • COMPAC Mouse • Microsoft Works Delrina WinFax Lite • Prodigy • America On-Line • Microsoft • Entertainment Pack Symantec Games Pack CD ROM Titles • Quicken for Windows 2.0

Monitor Not Included

#1866946

$1999

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

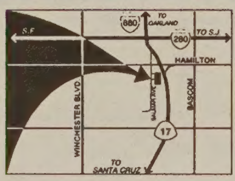
Prices good through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

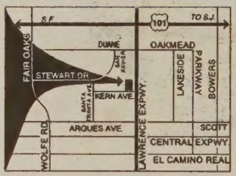
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX #'s



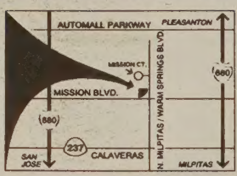
S.F.
880
TO OAKLAND
TO S.J.
280
HAMILTON
WINCHESTER BLVD.
BASCOM
17
TO SANTA CRUZ

CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



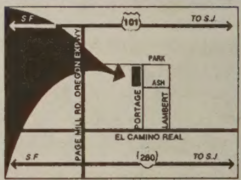
S.F.
101
TO S.J.
DUANE
OAKMEAD
FAIR OAKS
STEWART DR.
KERN AVE.
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
WOLFE RD.
LAWRENCE EXPWY.
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



AUTOMALL PARKWAY
PLEASANTON
MISSION CT.
MISSION BLVD.
880
N. MILPITAS / WARM SPRINGS BLVD
680
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



S.F.
101
TO S.J.
PARK
ASH
PAGE MILL RD. OREGON EXPWY.
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

INCREDIBLE SELECTION
CALL OR STOP BY TODAY

DISK DRIVE DEPOT

GREAT PRICE

1000s OF DRIVES IN STOCK

SUPERCHARGE YOUR MACHINE WITH CD-ROM!

CD-ROMS as low as $149!

Multimedia is here - what are you waiting for! **DDD has hundreds of CD drives in stock at discount prices.** Our Sony™ and LMSI drives include a matched controller for performance and flexibility. Call today for more information on these drives! Pick up a brand-new drive at a bargain price!

For the budget-conscious, DDD also occasionally offers a selection of factory-refurbished drives at even lower prices! These one-time buys are available in limited quantities, so drop in soon to avoid disappointment!

We have too many models to list here! Call for a free list !

ASK US ABOUT:

- **Multimedia compatibility**
- **MPC compliance**
- **Kodak Photo-CD compatibility**
- **CDs with cache buffers**
- **Fast multispin drives**
- **Transfer rates and seek times**

NO SCSI PORT?

DDD located a great buy on an ASPI controller for PC's that need an economical SCSI port for CD-ROMs. P/N 3250AS Just **$69!**

$495!
INTERNAL UNIT

Dynamite DAT Drives!

Store from 1300 to 4000 megabytes on a DAT tape the size of a matchbook! DAT drives offer unbeatable performance and reliability. DAT tapes are super inexpensive and extremely rugged. For serious backup and data interchange, DAT is the only solution. 'Til now, the only problem has been the price. SCSI DAT drives typically cost $1500 or more. The Depot has purchased a quantity of name brand factory refurbished drives at unheard of prices. These drives are guaranteed to meet or beat new drive performance specifications and are available at the fraction of the cost of a new drive. Try this drive on your system. You'll be amazed at the performance and convenience DAT has to offer.

CSC LIQUIDATION PRICE	
Half Height 2000/4000MB DAT	$495
Full Height 1300/2600MB DAT	$449
MAC Retrospect Backup Software	$69
IBM DOS 6 with Backup Software	$49
90m DAT Data Tapes (5 Pack)	$79

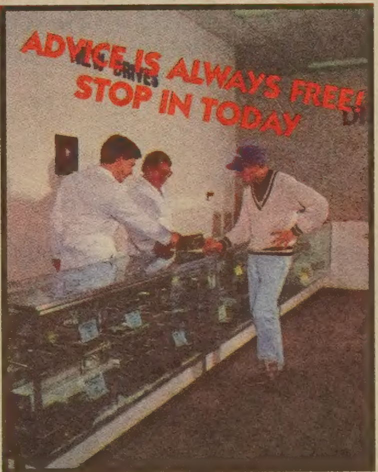
1GB OPTICAL MEGATOWER

$1295

At last! An affordable, high-performance erasable optical drive! These MaxOptix drives use rewritable media and perform just like a fast hard drive! Each double-sided removable cartridge holds up to 1050MB. The removable media is virtually indestructible. **FastCache and Corel** users can use the fast, low-cost 1024 byte cartridges! **Macintosh** users can as well, and you do not need expensive third party software drivers! Get just the drive and enclosure at **$1295** or save even more with our PC kit special. **The kit includes a Tahiti-1 in the external Megatower enclosure, a FastCache controller with 1 megabyte of cache, and one 1GB disk.** This includes cables, documentation, everything you'll need for plug and play installation for only **$1595**!

TECHNICAL EXPERTISE

That's what we have to offer that the others don't. All of our sales people have years of computer experience. If they can't answer your question, our customer service technicians can. Sorry but we do not have any beef jerky or candy bars. What we have is thousands of drives and the people to help you get the right one for you! Stop by soon!



PICK A CARD, ANY CARD *AND SAVE BIG BUCKS!*

We located a terrific supply of these network boards so you can save big while expanding your system! Whatever network you're using, we have a card for you! Better yet, upgrade that old, slow network today! Hurry in and talk to our technically savvy sales people about your network needs today!

NE2100 BUSMASTER	$49
NE1500 10 BASE T	$59
16/4 TOKEN RING	$199
VLB BUSMASTER	$195

GENERIC ETHERNET
10 FOR $149

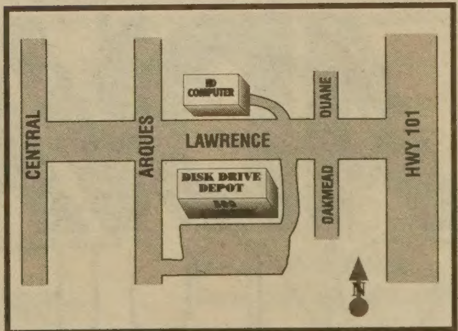
Thousands of Drives!! Stop by TODAY!!

Disk•Drive•Depot

(408) 738-3895
FAX (408) 738-3896
500 Lawrence Expressway
Sunnyvale, CA 94086

STORE HOURS:
Monday-Friday 10:30am to 6:30pm, Saturday 11am to 6pm

Stop in and visit our retail showroom on Lawrence Expressway, opposite from HD Computer (on the South side of the street). Our service and selection are second to none.



All drives (both new and refurbished) are backed by the Disk Drive Depot's fast turnaround warranty. Quantities limited on most items, and prices are subject to change without notice. Trademarks listed are property of their respective owners.

BUY ANY COMPUTER FROM US...

COMPAQ Apple IBM NEC

AMI AST® MICRONICS MYLEX

GATEWAY TOSHIBA HEWLETT PACKARD

and we can install a 2 Gigabyte HD, 2GB Tape Back-up, 37" Monitor, CD Rom, Novell Software, UNIX Software, D Software, and any configuration you want.

PLEASE CALL

NETWORKING	GRAPHICS WORKSTATION	ENGINEERING WORKSTATION	SOFTWARE DEVELOPERS WORKSTATION
Pentium Based File Server	SAM Work Station	Pentium Based P.C.I.	Pentium Based Workstation
Novell, 3Com, LANtastic	Pentium Based Computer P.C.I	1 Giga Hard Drive	64 MB RAM
Unix, XTerminal, Upgrades,	2 Gigabyte Hard Drive	1 Giga Tape	2 Giga Hard Drive
Installation & Consulting,	2 Gigabyte Tape Back-Up	32 MB RAM	2 Giga Tape
Routers, Hubs, Cards	32 MB RAM	20" Monitor	17" Monitor
& Software	Sysquest Removable Drive	2 MB Video Card	ATI VGA Card w/2 MB
PLEASE CALL	Color Printer	Plotter, Digitizer	2 Floppies
	21" Monitor	CAD & Other Software	
	Matrox Color Card		
	or Card of Choice		
	Photo Shop, Page Maker,		
	& All Software of Choice		

WORLD'S BEST PRICE!

Pentium	$2999
66MHz	$1399
33MHz	$999

ACS-Pentium/66MHz/33MHz

- 4MB RAM Expandable to 32MB/16MB on 66MHz
- 170MB, 16ms Hard Drive
- 1.2MB, 51/4" Floppy Drive
- 1.1 Interleave 2 Hard/2 Floppy Drive Controller
- 2 Serial, 1 Parallel, 1 Game Port
- Intel Pentium CPU
- IBM CPU 66MHz, Cyrix 33MHz
- 16-Bit SVGA Card
- 14" SVGA Color, 1024x768, 0.28mm Dot Pitch Display
- Clock/ Calendar with Battery Back-up
- 8 Expansion Slots

SOFTWARE - LOWEST & BEST PRICES

UNIX • ORACLE • INFORMIX • SCO-ALL APPLICATIONS • 1,2,3 FOR UNIX • WORDPERFECT FOR UNIX • Q & A AUTOCAD R.12 • NOVELL • 3COM • LANTASTIC • BANYAN • COREL DRAW • FRAMEAKER • D BASE IV • MS WORD • BOLAND • COMPUTER ASSOCIATES

MONITORS

17" to 37"
BEST PRICES!!

	VIDEO CARDS
•NEC	
•TOSHIBA	ATI
•SAMSUNG	NUMBER 9
•MITSUBISHI	MATROX
•MAG	DIAMOND
•KFC	ORCHID

NETWORKING

WIRELESS, HARDWARE, NOVELL, SOFTWARE, HUBS, LAN, MULTIPLEXERS, 3 COM, INTEL, SYNOPTICS

CALL FOR PRICES & INFO!

DESKTOP PUBLISHING

KODAK, NIKON, TEKTRONIX, RASTER OPS, RELISYS, FRAME, CANNON, CALCOM, AGFA, SEIKO, CAERE, COREL, ADOBE, STILL VIDEO CAMERAS, SONY, ANY OTHER ITEMS NOT LISTED

PLEASE CALL!

PLOTTERS/ DIGITIZINGS

Summa Sketch	$299
Calcomp	Best Price

HITACHI • ROLAND • KURTA
MICROTEK • LOGITECH • HP

ALL PLOTTERS & DIGITIZERS

ADVANCE COMPUTER SYSTEMS

Delivery & Installation Available
3 LOCATIONS TO SERVE YOU

SUNNYVALE - 665 GRAPE AVE. (408) 732-6200, FAX: (408) 749-9449
WALNUT CREEK - 1987 N. MAIN ST. (510) 945-8011, FAX: (510) 945-4941
SAN FRANCISCO - 1231 MARKET ST. (415) 552-2902, FAX: (415) 703-6217

(A) Prices subject to change w/o notice
(B) Financing Available
(C) Not responsible for typo error
(D) Installation Extra
(E) Subject to stock on hand
(F) Prices vary at stores
(G) Toner extra
(H) Visa, mastercard

Pentium Is A Trademark of Intel Corp.

THE PENTIUM CPU CENTER OF SILICON VALLEY

BASIC SYSTEM • 1.2 Floppy • 101 Keyboard • Case...Fastest Computer In The World! IBM Compatible

Used By Santa Cruz Operation-

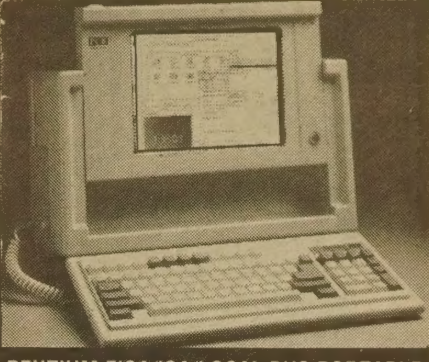
SCO THE SANTA CRUZ OPERATION

The world's largest UNIX software developer-to exhibit their software at UNIXFORUM, Washington, DC.
THAT IS HOW GOOD OUR COMPUTERS ARE!

COLOR PORTABLE PENTIUM CHIP

- *Up to 66 GIGA Hard Drive & CD-ROM*
- *Up to 96 MB RAM*
- *Good for UNIX, NOVELL, DOS, OS/2*
- *Color Active Matrix*

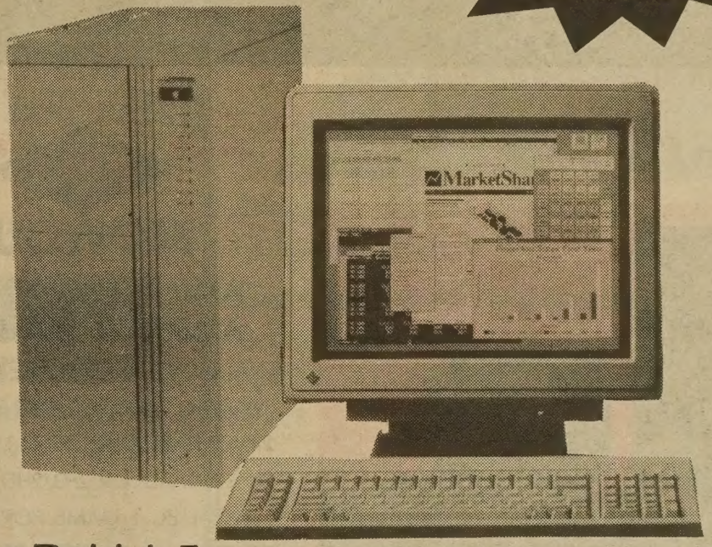
CALL FOR PRICE



PENTIUM EISA/ISA/LOCAL BUS PORTABLE

WIRELESS NETWORK AVAILABLE

SAM WORKSTATION



- Pentium CPU
- 1MB Cache
- 32 MB Memory Expandable To 1 Gigabyte
- 20"/37" Monitor
- 1280x1024 SVGA Card LB
- Auto CAD
- 32 Bit Network Card
- Digitizer/Plotter
- Multimedia
- SCSI Cache 16MB
- 2.2 Gigabyte SCSI Hard Drive Configured (Expandable To 50 Gigabyte)
- 2 Gigabyte Tape Expandable To 50 Giga
- Server Case
- UNIX/NOVELL/OS-2/DOS/3COM/ORACLE/INFORMIX
- Windows Nt
- Color Printer
- Raid 1-5
- Disk Shipping for Novell & SCO UNIX
- Disk Mirroring for Novell & SCO UNIX
- Document Imaging
- 32 Bit Video Card
- Color Laser Printer/Scanner
- Ventura, Gem Photo Lab
- PageMaker
- Photoshop
- Erasable Optical Drive

• FILE SERVER • ENGINEERING WORKSTATION
• GRAPHICS WORKSTATION
• SOFTWARE DEVELOPMENT SYSTEM

ADVANCE
COMPUTER SYSTEMS

3 LOCATIONS TO SERVE YOU

SUNNYVALE
665 Grape Ave.
(408) 732-6200
Fax: (408) 749-9449

WALNUT CREEK
1987 N. Main St
(510) 945-8011
Fax: (510) 945-4941

SAN FRANCISCO
1231 Market St.
(Inside Ramada Inn
Mezzanine Floor)
(415) 552-2902
Fax: (415) 703-6217

Leasing & Financing Available

Pentium Is A Trademark of Intel Corp.

EXPERTS
Windows
PICK

"InfoGOLD an excellent choice"
—PC Magazine

● **PENTIUM PCI LOCAL BUS 340 MB IDE HARD DRIVE**	**$2499.00**
● **PENTIUM PCI LOCAL BUS 540 MB SCSI HARD DRIVE**	**$2829.00**
● **486DX2-66 VESA LOCAL BUS**	**$1749.00**

FEATURES:

- BUSINESS LEASE: $ 70 /MO.
- 256KB CACHE MEMORY
- 8 MB RAM
- 340MB HARD DISK DRIVE
- 1.44MB **TEAC** FLOPPY DRIVE
- LOCAL BUS 1MB WINDOWS ACCEL. CARD
- 1:1 2FD/2HD CONTROLLER
- 2 SERIAL, 1 PARALLEL, 1 GAME PORTS
- 101 **ALPS** ENHANCED KEYBOARD
- 15" ***InfoGOLD 5000*** N.I. MONITOR - **HITACHI** 0.28DPI NON-INTERLACED PICTURE TUBE
- FULL-SIZE TRIPLE COOLING FANS TOWER CASE WITH TWO SIDE DOORS
- MOUSE

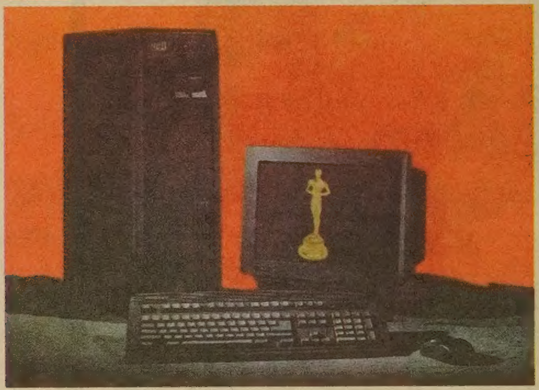
#3000

PC MAGAZINE EDITORS' CHOICE

READY FOR FUTURE TECHNOLOGY

BEST BUY 1993

PENTIUM READY



"Overall value excellent"
—PC Magazine

● **486DX2-66 PCI**	**$1795.00**
● **486DX2-66 VESA**	**$1495.00**
● **486DX-33 VESA**	**$1295.00**

FEATURES:

- BUSINESS LEASE: FROM $ 40 /MO.
- 128KB CACHE MEMORY
- 4 MB RAM
- 245MB HARD DISK DRIVE
- 1.44MB **TEAC** FLOPPY DRIVE
- LOCAL BUS 1MB S-VGA CARD
- LOCAL BUS IDE AND FD CONTROLLER
- 2 SERIAL, 1 PARALLEL, 1 GAME PORTS
- 101 **ALPS** ENHANCED KEYBOARD
- DELUXE FULL-SIZE TOWER CASE
- 14" ***InfoGOLD2000*** INTERLACED MONITOR - **HITACHI** 0.28DPI TUBE
- MOUSE

#3600

BLOWOUT SALE !!!

AMD 486 DX-40	**$1109.00**
AMD 486DX2-66	**$1259.00**

COMPLETE SYSTEM

System includes: 486 AMD CPU; VL-BUS; 128KB; 4 MB; 245MB HARD DISK DRIVE; 1.44MB FLOPPY DRIVE; S-VGA CARD; 1:1 2FD/2HD CONTROLLER; 2 SERIAL 1 PARALLEL, 1 GAME PORTS; 101 ENHANCED KEYBOARD; MINI TOWER CASE; 14" *S-VGA* MONITOR 0.28DPI; MOUSE

Same configuration in full size tower case add $49.00

MULTI-MEDIA OPTIONS:

☐ MULTI-MEDIA UPGRADE KIT - I SONY CD-ROM DRIVE; SOUND BLASTER SOUND BOARD; 6 CD-TITLES	$ 369
☐ MULTI-MEDIA UPGRADE KIT - II SONY DOUBLE SPEED CD-ROM DRIVE; 16 BIT SND. BLASTER SND. BOARD; 6 CD-TITLES	$ 409
☐ SOUND BLASTER 16 BIT SOUND CARD WITH BUILT IN SCSI CONTROLLER AND SONY DOUBLE SPEED SCSI CD-ROM DRIVE	$ 498
☐ SONY CD-ROM DRIVE	$ 139
☐ SOUND BLASTER 16 BIT SOUND CARD	$ 129

CALL FOR OTHER UPGRADE OPTIONS !

UPGRADE OPTIONS:

☐ 14.4K FAX/MODEM	$ 139.00
☐ 9600/2400 FAX/MODEM	$ 49.00
☐ 250MB TAPE BACKUP DRIVE	$ 169.00

90 DAY SAME AS CASH ! *

ASK ABOUT OUR EASY FINANCING AND CORPORATE LEASING PROGRAMS
- TO QUALIFY BUYERS -
0 % FINANCING AVAILABLE *

PC MAGAZINE EDITOR'S CHOICE

Serving Corporate Customers Since 1986 such as: United Nations, 3COM, U.S. Government, Weitek, General Motors, Ohio State University, Chevron, Siemens, and more...

•SUPER SALE•

340 MB CONNER IDE HARD DRIVE	$249
15" S-VGA MONITOR 0.28 DP 1280x1024 72Hz	$349

Terms and Conditions:
AMS accepts VISA, MC, Money Orders, Cashier Checks, P/O's, Wire Transfers. One Year Warranty on Parts and Labor. 30 Day Satisfaction Guaranteed. All returns are subject to approval. 15% restocking fee. Add $3.00 per box for handling plus shipping charges. COD, $4.00 per box. All prices subject to change without notice. Not responsible for typos. * subject to 15% restocking fee.

PH: (408) 524-9091 **FAX (408) 524-9099**

AMS

AMERICAN MULTISYSTEMS
538 OAKMEAD PARKWAY,
SUNNYVALE, CA 94086 - USA

You've got a technology partner with you at every step

MAR. 7, 1994 ISSUE #120
MICROTIMES
Editorial (510) 934-3700
Advertising (510) 934-3700 (408) 249-2343

TABLE OF CONTENTS

A NOTE FROM THE EDITORS

The Macintosh has changed our lives immeasurably—this magazine probably wouldn't exist without it.

In celebration of Mac's tenth birthday, we're pleased to bring you an extended interview with some of the key members of the original Macintosh team, now at General Magic working on the next generation of user-friendly technology. We hope you enjoy both the reminiscence and the looking forward.

—ME

Micro Marketplace

A Special Advertising Section For Northern California Computer Buyers Starts on Page 106

COVER STORY

From Mac To (General) Magic

By Mary Eisenhart..............................124
Cover photo: Susana Millman

Macintosh pioneers address the emerging market for personal communicators, hoping to once again create the user-friendly difference between Mac and DOS.

NEWS & VIEWS

Industry Insight *By Paul Hoffman*..........................14
New Intel Chips Drive Price Reductions.....14
CD-ROMs—Not Just For Multimedia.......274
MicroTimes Stock Index..........................276

Realizable Fantasies *By Jim Warren*.......................17
Further fulminations on software patents.

Preview: CFP'94..31
Coming to Chicago in March, the fourth Conference on Computers, Freedom, & Privacy offers panels and tutorials on law, privacy, constitutional matters, and other crucial emerging issues.

Preview: LA Computer Fair..............................32
Vendor exhibits, informative seminars, provocative speakers, and more in this year's premier event for Southland computer users.

Dvorak's Last Column *By John C. Dvorak*.............342
The unsung comedians of the Internet.

BUSINESS SOLUTIONS

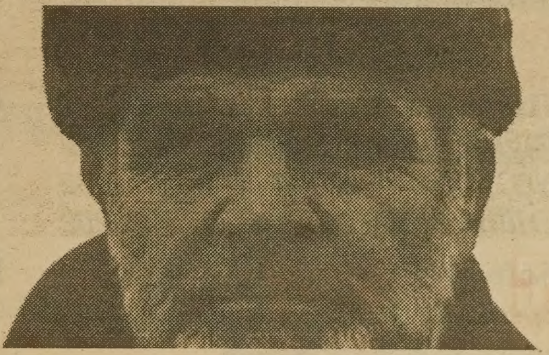
Pens & Palmtops *By Mitsu Hadeishi*.......................49
A look at a popular Japanese-market handwriting-based model from Sony.

Laptops *By Ed Kahn*..30
Business card scanner and database; Sharp PC-8650 color notebook.

Los Angeles Reacts To The Earthquake
By Robert Moskowitz...62
How telecommuting is working in the wake of the January 17 disaster.

MultiMedia & beyond

Multimedia 101 *By Jonathan E.*.......................278
Violence in multimedia, and the games of Sanctuary Woods which try to avoid it. Also, this month's Gulch Gossip.



Amiga *By Douglas J. Nakakihara*..........................290
Commodore's CD32.

Mac Quadra AV: Awesomely Versatile
By Tony Reveaux..302
Apple's affordable multimedia system draws raves.

Continuing Acceleration For Windows
By Rich Grace..307
More products to make your Windows machine multimedia-capable.

Real World 3D Studio *By Pamela Mason*.........314
Autodesk's animation software in professional use.

LANs *By Peter John Harrison*.................................72
New columnist Harrison takes over with this article on support resources for LAN administrators.

UNIX *By Bennett Falk*..79
Hapless User meets the downsizing strategy.

Business Via The Phone Lines: Security Considerations *By A. Lizard*..............................85
Protecting your business from hazards ranging from snoopers to viruses.

On The Internet? *By John. S. Quarterman*...............88
Resources to facilitate collaboration.

OS/2: Another START *By Fabian Pascal*.................98
An alternative to the icon interface.

FEATURES

BMUG *By David Morgenstern*...............................169
PowerPCs and other cool stuff from Macworld Expo.

MAR. 7, 1994 ISSUE #120
MICROTIMES

TABLE OF CONTENTS

One Volunteer Makes A Difference
By Jiri Weiss Jr. 170
The WELL's Maurice Weitman helps various community agencies with computer needs.

PRODUCT SPOTLIGHT

Product Updates 202

NEW PRODUCTS

PC Hardware
- *Digidesign SampleCell II* 202
- *NEC Multispin 4X Pro CD-ROM* 202
- *Trillium 4510 PC System* 202

PC Software
- *Speakeasy Teacher's Tools* 204

Monitors
- *Samtron 14" Color Monitor* 204

Printers
- *Tektronix Phaser 220* 204

Books
- *Computer Ethics* 206
- *Electronic Job Search Revolution* ...210
- *Harvard Graphics 2 For Windows* ..210

REVIEWS

Games
- *Mig29* 210
- *Companions Of Xanth* 210
- *Merchant Prince* 332

Books
- *Dos 6 Insider* 333
- *DoubleSpace—An Illustrated Tutorial* ...333
- *Photoshop In Black And White* 333

RESOURCES

Calendar Of Events 242
- *Nanosystems Study Group* 242
- *Visual Explanations* 242
- *Matisse's Guided Tour To The Internet* 242

User Group Network 254
This month's BBS spotlight: quake info online.

Classifieds 316

Index Of Advertisers By City 338

Index Of Advertisers 340

Do-It-All Disk Drive for Home, Office and Travel Computing!

$299. Mobile Disk 120/240MB*
Call for higher capacities, battery and OS/2 models.

*Double disk capacity is based on use of DOS 6.0 data compression utility.

Compact, Plug N' Play with any PC!
Mobile Disk packs up to 680MB* into a compact, portable unit. Simply plug into any portable or PC printer port and you're ready to go!

Great Backup!
Simply use DOS or Windows copy commands to do backup onto the Mobile Disk. It's easy, much faster than tape and your backed up data is instantly accessible withno messy restore. Plus if your internal drive fails, Mobile Disk fills in as your primary disk.

Privacy & Security!
It's easy to secure your personal and company data. Just unplug Mobile Disk and lock it away safely. Bring it off-site and you're protected from fire or damage.

The Best Storage Value-Guaranteed!

Value Stor

1-800-873-VALU FAX408/437-9333

Unbeatable Optical Disk Offer!

512MB (4 disks) $99.*

+Lifetime Warranty*

Take the Syquest/Bernoulli Challenge!

1/3-1/5 the Cost
Optical disks will save you $300 to $500 everytime you add 500MB of storage!

10 Times More Reliable
No head crash or mediawear. Endorsed worldwide, optical disk is far superior in reliability and ruggedness to Syquest & Iomega's magnetic disk.

Fast! Works Like Hard Drives
Features the fastest 3.5" 128MB SCSI-2 rewritable optical drive. Ideal for adding storage, backup and exchange data.

128MB Internal Drive.........$799.
128MB SCSI Ext. Unit........$899.
(PC or Mac)
Portable 128MB...............$899.
(Parallel Port Interface; works with any desktop or portable PC)
DOS, Windows, OS/2 & Mac Compatible
*Prices apply with purchase of a drive & Lifetime Warranty applies to optical disk media only)

KINGSTAR COMPUTERS NOW OPEN AT 4 LOCATIONS-

• FREMONT • SUNNYVALE • DUBLIN • HAYWARD •

GRAND OPENING SPECIAL SALE!

FEB 25, 1994 to MARCH 18, 1994

486SX-33 INTEL CPU SOUND SYSTEM

$999

- 486SX-33 MB + Intel CPU
- 4 MB Memory
- 1.2 or 1.44 MB Floppy Drive
- 250 MB IDE Hard Disk
- 14" SVGA Monitor
- 512K SVGA Card
- IDE Control
- 16 Bit Sound Card
- Pair of Speakers
- 101 Enhanced Keyboard
- Mini-Tower Case or Desktop Case w/230W Power
- 101 Enhanced Keyboard

MULTIMEDIA BUNDLE

Package Includes:

- 4 MB RAM-70ns
- Sony CD-ROM Double Speed
- 270MB Hard Drive
- 16-Bit Sound Card
- 1.2 or 1.44 MB Floppy Drive
- Mini-Tower Case/230W power
- 14" SVGA 1024x768 .28 Color Monitor Non-Interlaced
- SVGA Card w/1 MB
- IDE Controller (2S/1P/1G)
- 101 Keyboard
- Microphone/Software Bundle
- Pair of Speakers

486-66 IBM Motherboard	$1370
486-50 IBM Motherboard	1270
486DX-33 MHz	1455
486DX2-50	1474
486DX-50	1600
486DX2-66	1632
PENTIUM 60 & 8 MB Memory	2480

SYSTEM	MB+CPU	BARE BONE 0MB	BARE BONE+ 4MB	BARE 4+ 250MB HD	BARE 4+ SVGA/CARD
PENTIUM 66 PCI 256K	$1447	$1579	$1737	$1957	$2189
PENTIUM 66 VLB 512K	1407	1539	1697	1917	2150
PENTIUM 60 PCI 256K	1150	1282	1440	1660	1892
PENTIUM 60 VLB 512K	1134	1266	1425	1645	1877
BLUE/LIGHTNING 75MHz	772	904	1062	1282	1514
486DX2-66 PCI 256K	660	792	950	1170	1403
486DX2-66 VLB 256K	523	655	814	1034	1266
486SLC-66 VLB 64K	286	418	576	796	1029
486DX-50 PCI 256K	566	698	856	1076	1309
486DX-50 VLB 256K	516	648	806	1026	1258
486DX2-50 VLB 256K	384	516	674	894	1126
486SLC-50 VLB 64K	220	352	510	730	963
486SLC-50 ISA	171	303	461	681	913
486DX-40 VLB 256K	316	448	606	826	1059
486DLC-40 ISA 128K	141	273	432	652	884
486DX-33 PCI 256K	445	577	736	956	1188
486DX-33 VLB	342	474	633	853	1085
486SX-33 VLB 256K	187	319	477	697	929
486-33 ISA	151	283	441	661	893

UPGRADES:

· 340 MB Hard Drive	Add $60
· 540 MB Hard Drive	Add $230
· 15" Non-Interlace Monitor	Add $120
· 17" Non-Interlace Monitor	Add $380

· ONE YEAR WARRANTY PARTS & LABOR WARRANTY ON ALL SYSTEMS
· PRICES SUBJECT TO CHANGE W/O NOTICE · CASH PRICES ONLY · GOV'T PO's WELCOME

MONTHLY SPECIALS

486DX-33/50/66 MHz 256K 3 VLB	$95
386DX-40/128K/CPU MOTHERBOARD	94
1 MB SIMMS 70ns	35
270 MB IDE HARD DRIVE	219

HARD DRIVES

80 MB	$165
170 MB IDE	180
210 MB IDE	205
250 MB IDE	225
345 MB IDE	259
420 MB IDE	328
540 MB IDE	455
520 MB IDE/SCSI Fujitsu	510
1.2GB Fujitsu SCSI-2	825
250 MB Removable	380
1.37 GB SCSI-2 3/1" Size	1115
2.0 GB SCSI-2 Fujitsu	1450

MONITORS

15" SVGA .28 Non-Interlaced	$330
14" VGA Mono/Mono Monitor	105/88
14" SVGA .28 (1024x768)	235
14" SVGA .39 (1024x768) .28	205
ViewSonic 4E/V6E 0.28	275/290
ViewSonic 15E NI .28	410
ViewSonic V17G 1280x1024	855
14" ADI 3G .28 NI	330
NEC 5FGE/4FGE	1099/735
Nanao 550i	855
17" CTX Non-Interlaced 1280x1024	715
ViewSonic 21 1600x1280	1700

MISC.

3 Button Mouse	$8
Microsoft Mouse/Logitech MouseMan OEM	34
Trackball Mouse	30
250 MB Tape Back-Up/Tape	150
120 MB Tape Back-Up DJ-10/EXJB-10	125/289
1 MB 70 ns SIMMS	39
4 MB 70 ns SIMMS	159
256x9 70/80 ns SIMMS	12
486 and 386 CPU	CALL
387-40 Math Co-Processor	45

CASE WITH POWER SUPPLY

Mini Tower Case w/230W Power Supply	$40
Desktop AT Case w/230W Power Supply	42
Medium Tower Case w/200W Power Supply	68
230W Power Supply	38
Full Tower Case/250W/2 Fans	92

KEYBOARDS

Mitsumi 101 Keyboard	$15
Keytronic 101 Keyboard	28
Fujitsu 4700 101 Keyboard	40
Maxi-Switch 101 Keyboard	23
Left 101 Keyboard/Click	40
FullCS9000/128K	59
101 Russian Keyboard	25

INTERFACE CARDS

IDE 2FD/2HD/2S 1P 1G	$13
IDE 2FD/2HD/2S 1P 1G Local Bus	35
IDE 4FDD/2HDD 2.88	59
IDE Cache Controller/VLB	145
DTC 3280 SCSI Kit	98
1542CF (SCSI)	176
1542CFK w/Kit (SCSI)	296
2842VLK EISA VLB (SCSI)	258
Asus EISA (SCSI)	258
Bus Logic 4455 VLB (SCSI)	260
DTC 2290 EISA IDE	118
DTC 2280 ISA IDE	16
DTC 2270 VLB IDE	86
DTC 3290 EISA SCSI	418
Promise DC-200 IDE Cache Controller	96
Promise DC-200 VLB w/512K Cache	114
Promise DC-4030 VLB IDE Cache Controller	128

MODEMS

2400 Modem (9600 Send Fax Modem)	$27
Fax Modem (9600/2400) R/S	43
14400/14400 Fax Modem Ext V.32S/R	159
14400/14400 Fax Modem Int V.42	119
US Robotics Sportster 14.4/14.4 Fax/Modem	175
US Robotics Sportster 14.4/14.4 Fax Ext	195

PRINTERS

Panasonic KX-P1123/2023	$199
HP DeskJet 1200C	1399
HP 4/4M/4L	1365/1910/690
HP Scanner 2C	1285
HP DeskJet 5500	575
HP DeskJet 500	305
ScanJet 11C	1285
KX-P4410	585
KX-P4490	695
LQ-570 Plus	255
HP500C	395

NETWORK

16 Bit Ethernet Card (3 Com)	$49
16 Bit Ethernet Card (10BaseT/Coax)	40
16 Bit Ethernet Card BNC/AUI/RJ45	45
8 Bit or 16 Bit Auto Boot Prom	12

FLOPPY DRIVES

1.2 MB/1.44 MB Teac	$44/41
1.2 MB/1.44 MB Mitsumi	43/38
1.2 MB/1.44 Teac Black	50/44
1.2/1.44 MB Epson	42/40
1.2 MB/1.44 Teac Dual	110
2.88 MD FDD	98

MOTHERBOARDS

Pentium 586-66 MHz/256K	$425
486DX-66/50/33/256K EISA & VESA Nice	245
486DX-66/50/33/256K 2 VLB Opti	115
3 486DX66/50/33/256K 2 VLB Opti	115
486DX-66/50/33/128K 2 VLB	95
486SX-33 MHz/128K 2 VLB	90
486SX-25 MHz/128K/2 VLB	90
386SX-33/CPU	69
386DX-40/128K/Opti Chip	79
486/66/256K PCI	240

VIDEO CARDS

ATI Graphics Ultra 2 MB VESA VRAM	$320
ATI Graphics Ultra 1 MB (VLB) ISA	155
ATI Graphics Ultra Pro 2 MB (EISA)	355
ATI Graphics Ultra Plus VLB	225
Cirrus Logic CL-GD5420 w/1 MB	56
Cirrus Logic CL-GD5426/5428 VLB w/1MB	87/98
Diamond SpeedStar Pro (ISA/VLB)1 MB	105
Diamond Stealth Pro VRAM 1 MB/ 2 MB	238/299
Viper 2 MB (V) 512K (V) VESA	335
Diamond 8500 VLB w/1MB	95
Genoa 8500VLB w/1 MB	95
Orchid Fahrenheit VA801 w/Sound	146
Orchid Fahrenheit VLB w/1 MB	146
Orchid EISA w/Sierra (CP5300-3)	155
Orchid Celsius VLB 1MB/2MB	194/264
Spider VLB 1MB/2 MB	93/135
Spider Black Widow 1MB/2MB VRAM	205/265
Trident 9000A w/256K	31
Trident 9000 w/512K	38
Trident 8900CL w/1 MB	58
OAK 512K 1024x768	39
OAK 1 MB HI-COLOR	56

CD-ROM BUNDLE TITLES FOR WINDOWS

Includes:

- The Multimedia Electronic Encyclopedia
- The Animals
- The World Atlas (MPC)
- The U.S. Atlas (MPC)
- Mavis Beacon Teaches Typing
- The Chessmaster 3000 .... $65

Mario is Missing
Deluxe Version $15

TOUCH CD-8

Software Toolworks (WIN)
Encyclopedia (New Version V.6) $28

CD10

Software Tools (Win)
World Atlas MPC 3.2, US Atlas 3.0
Mavis Beacon Teaches Typing 2.0
Chess Master 3000 .... $30

CALL FOR OTHER TITLES NOT LISTED

Mitsumi CD-ROM Double Speed	$180
Mitsumi CD-ROM	155
Toshiba CD-ROM 200ms SCSI	355
Chinon CD-ROM SCSI	325
Orchid CD-ROM CDS-3110	CALL
Orchid Game Wave 32	CALL
Orchid Sound Wave 32	CALL
80W Big Speakers Pair	70
TV Recording Video Card	215
Sound Card Gallant SC6000	145
Sound Card Gallant SC5000	125
Sound Card Gallant SC3000	65
Sound Blaster Pro 16 Bit	155
Sound Blaster Pro Deluxe	125

SUNNYVALE
855 KIFER RD.
SUNNYVALE, CA 94086
(408) 736-8590
Fax: (408) 736-4151

FREMONT
46560 FREMONT BLVD #305
FREMONT, CA 94538
(510) 659-8590
Fax: (510) 659-8644

DUBLIN
6997 DUBLIN BLVD
DUBLIN, CA 94568
(510) 803-8220
Fax: (510) 803-1372

HAYWARD
3401 INTERNATIONAL BLVD. #3
HAYWARD, CA 94545
(510) 785-3850
Fax: (510) 783-5128

KINGSTAR COMPUTERS

Hassle-Free™ PC Faxing

✓Save
Save time and money

✓Print
Print on plain paper

✓Send
Send info right away

CALL
To order:
1•800•445•6190
(408) 746-2965
Dept. THCQK

It's At Work Even When You're Not

Now you can receive faxes on plain paper day or night, from the printer you already own—even if your PC is off. And you can send faxes from within any Windows or DOS application as easily as entering a *Print* command.

Get **Fax Authority™** from ASP. It's much more than a fax modem. It's a self-contained fax processor that simultaneously spools incoming and outgoing faxes—as well as print jobs. There are models for your home office, your workgroup (with built-in printer sharing), even your LAN.

With its battery back-up, intelligent line-sharing, and advanced Digital Signal Processing technology, **Fax Authority™** is so cost-effective and quick, who knows—you just might be able to knock off work early.

ASP Computer Products, Inc. • 160 San Gabriel • Sunnyvale, CA 94086
In Europe call (33-1) 41 07 91 70 or fax (33-1) 41 07 91 79

"Hassle-Free" and "Fax Authority" are trademarks of ASP Computer Products, Inc.

Hassle-Free™ Connectivity ASP®

We Beat Hi-Tech & Competitors' Prices!!

TI/CYRIX 486DLC-33/40 CPU (Supports 386DX CPU Socket) .. $68/88
Upgrade your 386DX to 486 Performance without buying a new motherboard! Get a 486DLC CPU Now!!

387SX	37
387DX-33/40	39
170MB HDD	180
210MB HDD	198
250MB HDD	220
340MB HDD	258
420MB HDD	318
SVGA (.39)	195
SVGA (.28)	228
SVGA (NI)	258
SVGA 15" Samtron	398
Used VGA/EGA/CGA	Call
SVGA Card	From 27
Cirrus Logic VLB (1MB)	85
Orchid 1280 Plus	144
Fax/Modem w/Voice	72
96/24 Fax/Modem	44
144/144 Fax/Modem	109
486DX/SX VL-BUS MB Green PC	125
486SLC-33/MB & CPU	89

IBM SLC-2/50 (ISA)	194
IBM SLC-2/66 (VESA) w/Math	288
386-486 Universal VL-Bus MB w/128K (Opti Chipset)	112
386SX-40 MB	69
386DX w/128 MB	78
486DX/SX VL-Bus MB	108
ESDI Cache Controller	108
RLL (DTC-7287) Controller NEW	28
8 Bit SCSI Controller	28
MFM (XT/AT) Card	27
IDE I/O (ISA)	12.50
IDE I/O (VL-Bus)	27
Mini Tower w/PS	37
Mid Tower w/PS	66
Super Tower Case	70
Keyboard	From 15
Mouse w/software	From 8
SIMM 60/70/80	From 35

MANY MANY UNLISTED ITEMS WITH BEST PRICES!—CALL
Overstock Clearance Sale! Hurry Up!

XT/286/386 Motherboard	From $15	Memory Card, Controller	From $5
Hard Drives	From $20	XT/286/386 Complete Sys.	From $60
Monitors	From $25	Printers	From $35

Ultimate Value Computer System

VL-BUS 486DX2/66/128K 486DX/33/128K $1288 $1098 Add $65 for VESA IDE & VGA w/1MB Card 486 EISA .... Call	VL-BUS 486DLC-40/128K 486DLC-33/128K $998 $983 w/Math Chip Installed	486DLC-40/128K 486DLC-33/128K $898 $888	386DX-40/128K 386SX-40 $858 $828

Complete System: Motherboard, CPU, 4MB RAM, 1.2 & 1.44MB FD, IDE w/IO, 200MB HD, 101 Keyboard, SVGA (.28) Monitor w/SVGA Card. Customized system & Basic system available too!

All Prices Reflect Cash Discount.

Palo Alto Micro Corp.
3483 El Camino Real
Palo Alto, CA 94306
On The 2nd floor
415/493-8209 • Fax 415/493-4572
M-F 9am-6pm & 8pm-10pm

8 Years in Business with Quality Parts & Service

Prices and Availability Subject to Change w/o Notice

MICROTIMES

CONTRIBUTORS

John C. Dvorak is a much-published columnist who knows good nerd humor when he sees it.

Jonathan E. writes about multimedia for us and world music for our sibling publication *BAM.*

Mitsu Hadeishi is the proprietor of Open Mind Systems in Ashland, Oregon.

Bennett Falk works in technical support at Sybase and is the author of the recent Sybex book *The Internet Roadmap.*

Rich Grace is a free-lance writer based in Orange County.

Peter John Harrison is a San Mateo-based data communications and connectivity specialist. He can be reached at *peterh@well.sf.ca.us*

Fred Haslam is an independent programmer based in the Bay Area. His most recent work was coauthoring SimCity 2000.

Paul Hoffman is an independent consultant who's been writing about computers for over 15 years.

Ed Kahn is a writer and consultant based in Studio City.

A. Lizard is the pseudonym of an East Bay consultant who specializes in security matters. You can send him email at *alizard%tweekco@PacBell.COM*or *alizard@gentoo.com*

Pamela Mason works at Hewlett-Packard as a CAD drafter and technical writer.

David Morgenstern works at *MacWEEK* and volunteers at BMUG.

Robert Moskowitz is a consultant based in Woodland Hills.

Douglas J. Nakakihara is a hard-working CPA by day and a major Amiga enthusiast the rest of the time.

Fabian Pascal is a San Francisco independent consultant, teacher, and writer specializing in relational database management, OS/2, and office and portable computing. He can be reached on MCI Mail (FPascal), CompuServe (73677,3306), and at (415)776-5184 (fax/voice).

John S. Quarterman is a frequent writer on Internet-related subjects.

Tony Reveaux, a San Francisco-based consultant, is a columnist for *Film/Tape World.* He can be reached via Usenet (luna@well.sf.ca.us), AppleLink AREVEAUX, or MCIMail 290-3008.

Jim Warren founded assorted hallowed institutions of the computer industry and is presently engaged in a quest to make government information available online.

Jiri Weiss Jr. is a Bay Area free-lance writer.

Domino®

BUILD YOUR OWN COMPUTER!

"I was amazed how easy it was! And very affordable too."
Tom Veatch
East Palo Alto

Domino's Consultants will help you learn to build it yourself!

FAST UPGRADES, SERVICE & REPAIRS!

MULTIMEDIA KIT

***NEW!* Sony 33A Dual-Speed CD-ROM $380**
MRi Mozart 16 audio card & software
6 CD Titles Included: The Animals, World Atlas, Compton's Multimedia Encyclopedia, U.S. Atlas, Mavis Beacon Teaches Typing, ChessMaster.
Plus SmartCD benchmark program

COMPONENTS

- **IBM 256MB HD $235**
- **Mr. Diskette 3.5" $6**
  1.44MB, box of 10
- **Panasonic Dual Speed CD-ROM $215**
  Includes controller and cables
- **MRi Pentium VLB Motherboard $450**
  512K Cache incl., 2 72-pin, 4 30-pin SIMM Sockets
- **MRi Pentium VLB VGA Card (2M) ..$200**

VIDEO CARDS

- **Cirrus Logic 5428 SVGA VLB 1M DRAM .$101**
- ***NEW!* ATI VGA 1024VLB 1M DRAM ..$145**
- **ATI Ultra Pro 2M VRAM $389**

SPECIALIZED IN NOVELL AND UNIX NETWORKS

NOVELL
Authorized Dealer
Call for Free Consultation
For SBT Accounting
Computerization

DOMINO IS EXPANDING! IF YOU'RE INTERESTED IN STARTING A DOMINO STORE, CALL MRi AT 510/657-3888

MRi Mozart 16

High-end audio card with broad compatibility for games, multimedia, CD-ROMs, Windows, music, voice I/O, 16-/8-bit mono/stereo digitizer/player up to 48kHz. High-quality analog audio circuitry and CODEC

Compatible with:
- Sound Blaster
- Sound Blaster Pro
- Windows Sound System
- AdLib
- Windows 3.1
- Multimedia PC Level 2

Software Included:
- Sound Impression: multimedia sound studio
- Recording Session: MIDI sequencer/music editor
- Animation Works: graphic animation
- Monologue: text-to-speech

3 CD Interfaces (Sony, Mitsumi, Panasonic)
MIDI Interface/Game Port
Stereo FM Synthesis, 20 voice/4 operator
4W Speaker Amp, internal and external speaker outputs

$119

Mr. Modem*

INTERNAL $129
EXTERNAL $145

14,400 bps Fax/Modem
Fast, Standard, Reliable!
Bitcom & BitFax/OCR for DOS & Windows

- Error Control (MNP2-4, V.42bis)
- Compression (MNP5, V.42)
- Up to 57600 bps Throughput!
- Fully Downward Compatible
- Intelligent Speed Selection
- Data or Fax Mode Auto-Detect
- Auto-Receive/Send
- File-Transfer
- Broadcast Fax
- Connect to On-Line Services
- Custom Cover Pages
- Plain-Paper Printing
- Schedule Faxes For Evenings
- Terminal Emulation
- Custom Phone Book
- OCR Converts Faxes To Formatted Text

***5 YEAR GUARANTEE!**

WE ALSO BUILD COMPLETE SYSTEMS TO FIT YOUR NEEDS

- **MRi Notebook NB-8000 ....$1399**
  System includes: 486SLC, 4MB, 120MB HDD, high-quality backlit 10" display, 64 gray-levels, PCMCIA 2.0 slot, 2 Ni-Cad battery packs, built-in trackball, removeable floppy disk drive, full-function keyboard. PCMCIA fax/modem optional
- **386SX40/4MB System.................$950**
  System includes: Motherboard, 4MB memory, 170MB hard drive, 1.2MB & 1.44MB floppy drives, IDE controller, 512K VGA Card (exp. to 1MB), Mini-tower case w/230W power supply, 14" SVGA monitor .28 and keyboard
- **MRi 486DX66MHz VLB System ...$1498**
  System includes: Intel 486DX2 66 CPU, MRi 486 VLB motherboard, 256K cache, 4MB RAM, VLB SVGA (Cirrus Logic 5428, 1M), VLB IDE & I/O, 256MB HDD, keyboard, mouse, 1.44MB floppy drive, mini-tower case, MRi 14" monitor .28
- **MRi Pentium PCI System Base....$1650**
  Includes: Intel Pentium 60MHz CPU, MRi PCI motherboard, MRi PCI VGA card (1MB, Windows Accelerator), MRi PCI SCSI controller, 512K cache, mini-tower case

LIFETIME LABOR WARRANTY
ON COMPLETE SYSTEMS

Any Domino location honors the warranty on products marked with this label

GENUINE DOMINO PRODUCT

Prices subject to change without notice

SELF SERVICE CENTERS

BERKELEY/EMERYVILLE
1552 Beach St. Ste. B
510/653-6286

***BLOSSOM HILL**
461 Blossom Hill Rd.
Ste. H-1
408/363-1800

CAMPBELL
486 E. Campbell Ave.
Ste. 102
408/374-7477

CONCORD
1130D Burnett Ave.
510/682-8934

HAYWARD
26222 Industrial Blvd.
510/732-0377

LOS ALTOS
307 Second St.
415/941-7778

MILLBRAE
231 Millbrae Ave.
Ste. 101
415/259-8080

MILPITAS
976 Hanson Court
408/946-6991

SACRAMENTO
3019 Arden Way
916/972-0311

* Novell Certified Network Engineer

Domino® COMPUTER
Your Neighborhood Workshop
Service and Upgrade Center

SELF SERVICE CENTERS

SAN FRANCISCO
3400 Geary Blvd.
415/668-9311
OPEN SUNDAY

SAN RAFAEL
757 Lincoln Ave.
Ste. 30
415/453-8525

***SAN RAMON**
2217 San Ramon Valley Blvd.
Ste. C
510/820-6022

SANTA ROSA
1740 Santa Rosa Ave.
707/523-2055

SUNNYVALE
1214 Apollo Way
Ste. 404-2
408/749-0217

VALLEJO - NAPA
480 Redwood St., Ste. 12
707/644-5055
OPEN SUNDAY

BUSINESS CENTERS

***FREMONT**
46573 Mission Blvd.
510 623-7181

OAKLAND
1238 Harrison Street
510 839-1800

***PLEASANTON**
6700 Santa Rita,
Ste. D
510 847-1771

Industrial PC Solutions

19" Rack Mount System

PRICE IS BASED ON THE CONFIGURATION YOU REQUIRE

19" Rack Mount System

- 20 MODELS, UP TO 20 SLOTS
- UP TO 8 DRIVE BAYS

Rack System w/Keyboard and Monitor

- MONOCHROME OR 10" VGA
- 10.5" X 19" X 24"
- MOTHER BOARD OR 8 SLOT PASSIVE BACKPLANE BOARD
- 5 HALF HEIGHT 5.25" BAYS

6-Slot Node IPC Enclosure

- COMPACT INDUSTRIAL PC
- WALL MOUNT PC CONTROLLER
- DRIVE HOUSING FITS 3.5" FDD & HDD
- 150W POWER SUPPLY

Monitor Enclosure

WE CARRY MONITOR ENCLOSURES FOR MOST 12" OR 14" MONITORS.

Rack Mount Keyboard

FULL TRAVEL KEYBOARD
1 UNIT HIGH (1.75")

CPU Boards

Upgradable All-In-One CPU Card
- 386DX-33 to 486DX2-66 (AMI BIOS)
- 256KB Write back cache memory
- IDE HD/FD controller, 2S/1P, keyboard adapter on the board.

Half-Size All-In-One 486 CPU Card with Flash/Rom Disk
- 486SX-25, 486DX-33, 486DX2-50/66
- Optional Flash/RAM/ROM disk module or flat-panel/CTR VGA module
- IDE HD/FD controller, 2S/1P, keyboard adapter on the board

Backplane Board

ALL 16 BIT BACKPLANE BOARD
- 3, 4, 5, 6, 8, 12, 14, 18, 20 SLOT
- 14 SLOT SEGMENTED 6,4,4
- 18 SLOT SEGMENTED 5,4,4,5
- 20 SLOT SEGMENTED 5,5,5,5

AT Expansion Bus - Interconnect Kit

Warranty includes 1 year parts and labor.

J&K TECHNOLOGY
43224 Christy St. Fremont, CA 94538
510-226-9484 Fax: 510-226-9482
MON.-FRI. 8AM-6PM

DISCOVER THE CUPERTINO COMPUTERS DIFFERENCE!

LARRY WOOD – OWNER

386DX-40C128	$279
486SX-40C128	389
486SLC2-66 VLB	494
486DX-40C256 VLB	499
486DX-50C256 VLB	699
486DX2-66C256 VLB	749

1 YEAR PARTS, 3 YEAR LABOR
WARRANTY ON ALL SYSTEMS
MON-FRI 10:00-6:00
SATURDAY 11:00-4:00
SALE PRICES FOR CASH CUSTOMERS NO CREDIT CARDS
Corporate P/O's Welcome
Prices & availability subject to change w/o notice

STANDARD SYSTEM: Motherboard & CPU, 1MB RAM, Desktop or Mini Tower Case, 230 Watt Power Supply, 101 Key Enhanced Keyboard, 2 Hard/2 Floppy Disk 1:1 Controller Card, AMI Bios, 1.2 or 1.44 MB Floppy Drive, 2 Serial/Parallel/Game I/O Ports.

CUPERTINO COMPUTERS INC.
10675 S. DE ANZA BLVD., CUPERTINO, CA 95014
TEL: (408) 255-5997 FAX: (408) 255-7699

California's Computer Magazine
MICROTIMES™

EDITOR-IN-CHIEF
Dennis Erokan

PUBLISHER
Chuck Stanley

EDITORIAL 510-934-3700
EDITOR Mary Eisenhart
ASSOCIATE EDITOR Michael Robin
NEWS EDITOR Paul Hoffman
ART COORDINATOR Monika Lukenbill
SENIOR DESIGNER Rick Colby
CONTRIBUTING EDITORS Lenny Bailes, John Perry Barlow, Jennifer Robin Cherniss, Kathleen Creighton, John C. Dvorak, Jonathan E., Bennett Falk,Mitsu Hadeishi, Peter John Harrison, Ed Kahn, Mitchell Kapor, Matthew Leeds, David Morgenstern, Robert Moskowitz, Douglas J. Nakakihara, Fabian Pascal, Tony Reveaux, David A. Simon, CPA, Birrell Walsh, Jim Warren, John Wolcott
CONTRIBUTING WRITERS Mikael Blaisdell, Anna Couey, Rich Grace, Fred Haslam, Fred Lieberman, Woody Liswood, Judy Malloy, Michael Nieman, Kevin Savetz
EDITORIAL ASSISTANT John Downen
BBS RESEARCHER David Remus
CONTRIBUTING PHOTOGRAPHERS Jay Blakesberg, Michael Jay, Susana Millman, Ann Summa, Paul Winternitz

ADVERTISING 510-934-3700
DIVISION BUSINESS MANAGER Amy Barrett
SALES MANAGER (SO. CAL.) Cynthia Lapporte
SENIOR ACCOUNT DIRECTOR (NO. CAL.) Barry Green
NATIONAL ACCOUNT DIRECTOR (SO. CAL.) Jane Shepherd
ACCOUNT EXECUTIVES Melissa Campbell, Marty Gillow, Tracy Longo, Ken Marson, Herb Mendelsohn, Debra Siegel, Chloe Vezo
CLASSIFIED & SUBSCRIPTION MANAGER (NO. CAL.) Jennifer Kosta
ADVERTISING SERVICES ASSISTANT
Carolyn Guerrero (Northern California)
Warren La Guzza (Southern California)

PRODUCTION
GROUP PRODUCTION MANAGER Mary Beth DeSantis
PRODUCTION ASSISTANT Matt Matuska
TRAFFIC ASSISTANT Beth Bartels Tarder
ASSOCIATE DESIGNERS Paul Dorian, Michelle Logan
ART STAFF Renée Alborelli, Jennifer Bagwell, Trina Baucom, Donna Bogener, Lance Borde, Gigi, Peter Kowalesyn, Dita Rudinow, Lisa Spencer
CAMERA OPERATOR Jesse Coleman
PROOFREADER John Downen

ADMINISTRATION
CONTROLLER Patricia Buck
SENIOR ACCOUNTANT Linda May
ACCOUNTING Joaquin Arellano, Vickie Liu, Brian Murray, Bonnie Peterson, Sheryl Sindt
CREDIT MANAGER Doug Morgan
HUMAN RESOURCES DIRECTOR Erica Stein-Oakley
L. A. OFFICE MANAGER Raphaella Vaisseau
ADMINISTRATIVE ASSISTANTS Christine Garcia, Leta Jesch
L. A. ADMINISTRATIVE ASSISTANT Michelle Rosendin

DISTRIBUTION 510-934-3700
DISTRIBUTION MANAGER John Erokan
ASSISTANT MANAGER/LA Art Holland
DISTRIBUTION ASSISTANT Tami Martin
DISTRIBUTION CLERK David Remus
FIELD COORDINATORS Roe Eyth, Frank Grygus
DISTRIBUTION Dennis Anderson, John Clefstad, Don Karr, Juan Lau, Jac Michanovic, Robbie Myers, Curtis Ng, Kelly Orr, Joseph Rafalo, Reliable Circulation, John Dimas Rezendes, SPS, Wilfredo Villarroel
PUBLICATIONS *BAM* Magazine, *Drive!* Magazine, *SF Downtown, Home Improvement & Design*

FOUNDERS
Dennis Erokan, Don Hamilton, Pat Hamilton

This Vol. 10 No. 4 March 7, 1994, Whole No. 120. MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 3470 Buskirk Ave., Pleasant Hill, CA 94523. Phone Advertising Office (510) 934-3700. Los Angeles Office, 6767 Forest Lawn Drive, Suite 110, Los Angeles, CA 90068. Phone (213) 851-8600. San Jose Office, 36 Harold Ave., Suite 2, San Jose, CA 95117. Phone (408) 244-4400. Anaheim Office, 801 East Katella Ave., Suite #210, Anaheim, CA 92805. Phone (714) 939-2809. MicroTimes™ is © 1993 by BAM Publications, Inc. Subscription rates: 13 issues, U.S.: 3rd Class $32 (Allow 3 to 4 weeks for delivery), 1st Class $60 Allow 1 to 2 weeks for delivery). MEXICO & CANADA: Surface Mail $50 (Allow 4 weeks for delivery). Air Mail $70 (Allow 1 week for delivery). OVERSEAS: Surface Mail $50 (Allow 6-10 weeks for delivery), Air Mail $165 (Allow 1 week for delivery). To receive sample issues, please send $4 ($6 for overseas) to cover postage costs. Back issues are $6 each. All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

40

BPA INTERNATIONAL

WHOLE EARTH
ELECTRONICS

WHOLE EARTH ELECTRONICS

WAREHOUSE COMPUTER PRICING

APPLE®

Apple® Macintosh Quadra® 605

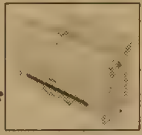
This easy to set up and easy to use computer is ideal for both business and home users.

$879. Keyboard and Monitor Extra.

APPLE® REBATES ARE BACK

Buy an Apple® Macintosh Quadra® 605 Computer and an Apple® StyleWriter® II Printer and get a $150 REBATE from Apple Computer, Inc. Rebate Ends March 31

APPLE® StyleWriter® II Printer



*Price After Mfg. Mail-in Rebate
Ideal for both business and home use. Can be put to work immediately-it takes just one click of your mouse. **$129.***

Apple® Macintosh Quadra® Computers

Macintosh Quadra® 605 8/160	1199.
Macintosh Quadra® 610 8/160	1349.
Macintosh Quadra® 610 8/230	1749.
Macintosh Quadra® 610 8/230/CD	2099.
Macintosh Quadra® 650 8/230	2099.
Macintosh Quadra® 650 8/230/CD	2399.
Macintosh Quadra® 650 8/500/CD	2999.
Macintosh Quadra® 800 8/230	2249.
Macintosh Quadra® 800 8/500	2849.
Macintosh Quadra® 660av 8/230	1799.
Macintosh Quadra® 660av 8/230/CD	2099.
Macintosh Quadra® 840av 8/230	2999.
Macintosh Quadra® 840av 8/230/CD	3299.

All Desktop Macintosh - keyboard/monitors EXTRA

Apple® Printers

Apple® Portable Stylewriter®	379.
Apple® Personal Laserwriter® 320	899.
Apple® Laserwriter Select™ 300	749.
Apple® Laserwriter Select™ 360	1529.
Apple® Laserwriter® Pro 630	1999.

Apple® Multimedia

AppleCD™ 300 CD-Rom Drive	379.
AppleCD™ Multimedia Kit for Macintosh	599.
CD Multimedia Kit for PC	619.

©1993 Apple, the Apple logo, LaserWriter, Macintosh, Macintosh Quadra, PowerBook and Stylewriter are registered trademarks of Apple Computer, Inc. Apple CD, Macintosh Duo, System 7, Newton, Message Pad, PowerBook Duo, LaserWriter Select and the light bulb logo are trademarks of Apple Computer Inc. Classic is a registered trademark licenced to Apple Computer Inc. *Price after rebate

IBM

The Ultimate Multimedia Machine from IBM

650MB CD-ROM • Eight CD software titles • Sound Blaster 16™ • Audio Card • Two Powerful Stereo Speakers • 170MB hard drive • Learning made easy pre-installed • Smart Energy System™ • Internal Modem • 4MB RAM upgradeable to 64MB • Five drive bays and five expansion slots • 1.44 MB floppy drive • Mouse and keyboard Monitor extra

$1499.

IBM® PS/1®

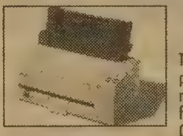
14C 486sx.25 4mb RAM 129mb HD Modem Sftw	$ 899.
19C 486sx/33 4mb RAM 170 MB HD Modem sftw	1199.
24C 486sx/33 4mb RAM 253MB HD Fax/Mod sftw	1499.
37C 486dx2/50 4mb RAM 253mb HD Fax/Mod Sftw	1699.
43C 486dx2 4mb RAM 340mb HD Fax/Mod Sftw	1899.
52C 486dx2/66 4mb RAM 253mb HD Fax/Mod Sftw	2099.
56C 486dx2/66 8mb RAM 420mb HD Fax/Max Sftw	2399.
86C Multimedia 4 Mb RAM 253mb HD Fax/Modem 8CD titles Speakers 16 Bit Sound Card	1799.

IBM® Easy Options

CD Rom Internal #Cd650	399.
CD Rom w/Multimedia #Cd651	499.99
16 Bit Stereo Card with DSP #Ac523	169.99
Audio Card 8 bit #AC525	89.99
PC TV Card Professional #TV541	349.99
Int. Modem 2400bd #MOD530	39.95
Fax Modem 9600send #MOD531	49.95
Pocket Modem 96/24 #MOD533	99.99
Int. Fax Modem 14.4 #MOD535	179.99
Ext. Fax Modem 14.4 #MOD536	199.99
Surge Protector 6 Outlet #P606	59.99
Power Center #P607	69.99

Printers

Execjet II Inkjet Printer #4076	299.
Laserprinter 5E 5PPM #40375E	749.
Laserprinter 10R #4003910r	1399.



$299.

Introducing... Execjet® II from IBM®

The Execjet II is a general purpose inkjet printer providing laser-like text and graphics at a dot matrix printer price. Features include scalable fonts and 600x300 dpi resolution using Print Quality Enhancement technology for both text and graphics. Designed to be easy to use, this printer can be set up in minutes. #4076
Quantity Limited

NOTEBOOKS

IBM® PS/Note E35

This 4MB RAM 85MB notebook features the Trackpoint II pointing device and a four-hour nicad battery. Includes a fax modem and software including DOS, Windows and MS Works preloaded. #22618E35 **$1699.**

Apple® Macintosh® Powerbook® Computers

Macintosh® Powerbook® 145b 4/80	$ 1299.
Macintosh® Powerbook® 165 4/80	1689.
Macintosh® Powerbook® 165 4/160	1999.
Macintosh® Powerbook®180 4/120	2399.
Macintosh® Powerbook® 180c 4/80	2499.

TOSHIBA Notebooks

T1950/200	2399.
T1950CS/200	2899.
T1950CT/200	3199.
T13400/120	2399.

Limited Availability on Toshiba

HEWLETT PACKARD

Hewlett Packard Inkjet Printers

NEW! HP Deskjet 520	$ 289.
HP Deskjet 310 (Sheetfeed extra)	299.
HP Deskjet 500c	389.
HP Deskjet 550C	499.
NEW! HP Deskjet 560C	589.
NEW! HP Deskwriter 520	289.
HP Deskwriter 310 (Sheetfeed extra)	299.
HP Deskwriter C	389.
HP Deskwriter 550C	499.
NEW! HP Deskwriter 560C	589.

Hewlett Packard Inkjet Printers

HP Laserjet 4L	649.
HP Laserjet 4ML	999.
HP Laserjet 4P	999.
HP Laserjet 4MP	1389.
HP Laserjet 4	1499.
HP Laserjet 4M	1899.

Quanity limited to stock on hand.

MULTIMEDIA

Brøderbund®

Just Grandma and Me CD

$34.99

Multimedia Titles

Arthur's Teacher Trouble	$ 34.99
The Tortoise & the Hare	34.99
Mad Dog McCree DOS	29.99
Return to Zork CD DOS	16.99
The Ugly Duckling CD	39.99
MS Cinemania	49.99
7th Guest CD ROM DOS	49.99
Omni CD	299.99
Journeyman Project CD	57.99
BattleChess CD	49.99
Pro Audio Spectrum 16	129.99
Pro Audio Studio	169.99
SoundBlaster Deluxe	69.99
Sensory System 1	439.99
Reveal Int. CD ROM Drive CDD02	199.99
MS Dinosaurs CD ROM DOS	49.99

MEDIA VISION

MEDIA VISION

Double Fusion CD LX

$399.99

Prices subject to change without notice

MAC SOFTWARE

MAXIS

Kid's Studio

$34.99

MAC

Kid's Pix MAC	$ 34.99
Print Shop Deluxe	49.99
Thinkin' Things	34.99
Sim City 2000	37.99
Filemaker Pro	279.99
El Fish	34.99
Flight Simulator	42.99
Fatty Bear's Birthday Surprise	29.99
Type!	14.99
Backyard	29.99
Star Trek Screen Saver	27.99
Mario is Missing	29.99
Creative Writer	47.99
Flying Colors	44.99
MS Works w/CPU purchase	99.99
Sim Ant	27.99
Number Munchers	17.99

DOS SOFTWARE

MICROSOFT Arcade WIN

$27.99

DOS/WINDOWS

MS Works WIN	$ 89.
Number Munchers DOS	17.99
Prince of Persia 2 DOS	37.99
My Own Stories	29.99
Scooters Magic Castle	29.99
Dino Park Tycoon	34.99
Eagle Eye Mysteries	29.99
Terminator 2 Screen Saver	21.99
Ping & Kooky's Cuckoo Zoo	29.99
Disney Screen Saver WIN	26.99
Kasparov's Gambit	36.99
Quark Xpress WIN	599.99
Kid Kid Cuts	24.99
SimEarth	27.99
Peanuts Yearn2Learn	37.99
MS Scenes	21.99
Reader Rabbit 3	31.99

ACCESSORIES

LABTECH Speakers

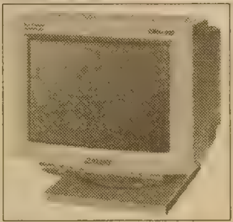
#CS150

$17.95

System Connection Surge Strip	5.95
PC Accessories Digital Joystick	7.95
Impreso Laser Paper, 1000 sheet Box	7.95
Crosby Creations Dust covers, various styles starting at..	7.95
PC Accessories Command Pad	8.95
System Connection Mouse -	9.95
Silicon Sports Puzzle Mouse/Wrist rests	10.95
System Connection Power Center	13.95
Graphic Utilities Deskjet ink refill	15.95
Labtec CS150 Computer speakers	17.95
Ergodyne Low Profile Backrest	24.95
Ergodyne Footrest	39.
Info Products 4 to1 auto printer switch	55.
Panamax Max6 surge protector	59.
Targus Universal notebook case	75.
Mouse Systems A3 mouse for Mac	89.
Logitech Trackman II serial	79.
American Power Conversions BK250	99.

PERIPHERALS

SONY 14 Inch Trinitron Color Monitor



Compute longer and more comfortably with this sharp color monitor that meets strict safety standards. Compatible with both Macintosh and PC computers.
#CPD1320 **$379.**

SONY CPD1430	#SONYCB008	$ 569.
SONY CPD1730	#SONYCB0011	1099.
SONY GDM17SE1	#SONYCB0012	1299.
Syquest 44MB Cartridge	#MNTTCP0002	69.
Syquest 88MB Cartridge	#MNTTCP0800	99.
Colorado Internal 250MB	#COLOCE0004	199.
Colorado Ext Kit IBM XT/AT	#COLOCE0006	99.
SIIG Suntouch 101 Keyboard	#SIIGCD0005	59.
SIIG Serial Port	#SIIGCF0001	25.
SIIG High Speed Serial Card	#SIIGCF0002	35.
SIIG High Speed Serial W/16550 URT	#SIIGCF0003	49.
SIIG IDE 2HD/FD 2-Serial 1-Par 1-Game	#SIIGCF0004	39.
Global Village		
Teleport Gold	#GLOBCI0011	329.
Powerport Gold	#GLOBCI0008	329.
Zoom 96FAX/ 24Data V.42BIS	#ZOOMCI0106	55.
NEC 4FGE	#NECTCB0011	779.

Quantity limited on some products.

SAN JOSE 3530 STEVENS CREEK BLVD. (408) 554-1500 • M-F 10am—9pm /Sat-Sun 10am—6pm

Errors subject to correction

INDUSTRY INSIGHT

Chips And CD-ROM

New Intel Chips Bring New Price Cuts

BY PAUL HOFFMAN

Copyright © 1994 by Paul Hoffman. All rights reserved. Paul Hoffman is an industry analyst who has been covering microcomputer technology for fifteen years. He also writes popular computer books and is the president of Proper Publishing. He can be reached at phoffman @netcom.com.

A slew of new CPU announcements from Intel portends another round of price-cutting in the coming months for both mid-range and high-end PCs. Because there will be too many chips with similar power for a single manufacturer to support, the new offerings will force PC manufacturers to make harder choices about which CPUs they will use. They will also put more pressure on Intel's competitors such as AMD and Cyrix to reduce their prices and add more features to their own chips to better define their differences from Intel.

The first announcement, and the one most important to high-end users, is the new DX4 series, based on Intel's 486 CPU. The first DX4 will run at 100MHz and will be about as fast as a 60MHz Pentium processor for integer applications. The big difference is that the DX4 will be much less expensive, and the support chips for it will also be less expensive, making the overall system about $500 less for comparable performance. The DX4 series is much easier and cheaper to manufacture, leading to the lower price.

The DX4 won't interest everyone, and it won't cannibalize a large part of the Pentium market, due to its lackluster floating point performance. Although the DX4 is about 30% faster than the 66MHz 486DX2 at floating point calculations (used in graphics, finance, and scientific work), it is only half as fast as the 6 MHz Pentium system for those calculations. For most day-to-day users, this difference is not that important because they don't do graphics-intensive work such as video production or a great deal of numerical calculations, and the DX4 computers will be very attractive. Intel insists that a large number of business users will soon want features such as videoconferencing and on-screen animation, and that they will want the Pentium for those tasks.

The new chip has helped point out some of the problems with the current ratings for chip speeds. Although the Pentium was promised to be much faster than earlier Intel chips, much of that speed improvement required software developers to recompile their programs to take advantage of Pentium-specific features. Now that many developers have done this, they are finding only a small increase in the overall speed, not the 20–40% that many thought they would get. On the other hand, no one needs to recompile anything to take full advantage of the DX4's speed.

> **THE DOWNSIDE OF THESE ANNOUNCEMENTS IS THAT IT WILL PROBABLY MEAN MORE CONFUSION FOR PC DEALERS AND THE END-USERS.**

In the mid-range, Intel announced two new 486SX CPUs, dubbed 486SX2. The 50 MHz and 66MHz chips have twice the internal speed of the current 25 and 33MHz chips, and will yield almost twice the performance. This will put more pressure on Cyrix and AMD, who mostly compete with Intel at this end of the PC market. The new chips will be used both in portables and in mid- to low-range desktop computers. Within six months, they will probably cost about as much as their normal-speed counterparts do today, meaning that they will simply increase the speed that users demand at that price, not increase the price paid for the current speed.

Intel also announced very sketchy details about the P6 chip, due next year. They probably did this to blunt enthusiasm for the IBM-Apple-Motorola PowerPC chip that competes very well with the Pentium at a much lower price. The P6 will certainly be faster than the Pentium, but it is not clear how Intel plans to bring its price down—its complexity will be at least as great as the Pentium's, and thus its manufacturing cost will be at least as high.

In related news, AMD announced that it had snagged its first big-name client, Compaq. Until now, AMD and Cyrix had to settle for much smaller manufacturers who gave them plenty of money but not much profile. Now that Compaq has agreed to use AMD CPUs in a small number of their new systems, AMD will appear to be more of a real player to other PC manufacturers. This will especially help AMD's bid for mid-range computers, where Compaq is strongest.

The downside of these announcements is that it will probably mean more confusion for PC dealers and the end-users. In the case of the DX4, is it worth $500 to forego faster numerical calculations if you're pretty sure (but not absolutely sure) that you aren't going to use it two years from now? If you're a dealer, do you go with one manufacturer who has Pentiums and

continued on page 274

The Printer Works Introduces the SP-29000

This PostScript Laser Printer is Absolutely an Incredible Value!

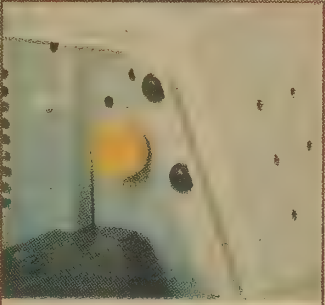
*Our price for this 6 ppm PostScript printer is about the same as the lowest priced 4 ppm printer **without** PostScript!*

Only $595 With Toner

30 DAY MONEY BACK GUARANTEE

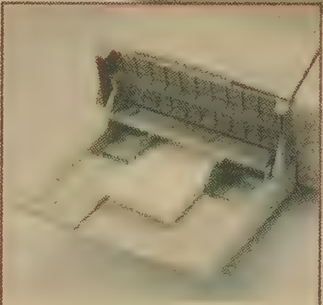
The Printer Works has been bringing you the best deals on PostScript printers for years. (Remember our "PostScript for Peanuts" campaign that offered the JetScript-CX for only $995 when most other 8ppm PostScript printers were priced at over $2,000?) The new SP-29000 printer is our best deal ever! It costs less and offers even more—just look at all the important features you get for only $595:

- PC and Macintosh compatible—the SP-29000 can connect to both simultaneously!
- High-speed, 32-bit AMD RISC processor for fast formatting of complex PostScript jobs
- Reliable 6 page per minute engine—the same model used in more expensive printers!
- MicroSoft TrueImage PostScript-compatible interpreter
- Great for all Windows and Macintosh applications
- 35 Scalable TrueType fonts
- AppleTalk, Centronics Parallel, and RS-232 Serial Interfaces



Economy Toner Dial

Now it's easy to make your toner cartridge last longer, and still get good printouts! Simply turn down the print intensity dial while printing drafts, and turn it up again for the deep rich blacks you want on your final output!



High-Capacity Universal Paper Tray

The SP-29000 lets you print letterhead and envelopes without having to stop and switch cumbersome paper trays! One tray does it all! The high-capacity universal paper tray is fully adjustable for up to 250 sheets of letter, legal, or executive size paper. It can also be used for up to 25 envelopes.

All-In-One Toner Cartridge

This high-capacity toner cartridge contains a long-life super drum and enough toner to print 8000 pages before refilling! (That's 2-3 times more than other printers!) The toner is the latest micro-fine variety which produces super rich black areas and very sharp fine lines. These cartridges are readily available in the market (and from us!)

PostScript is essential for compatibility with professional desktop publishing and graphics applications. It's also easier to use for general business applications. If you've been shopping for a laser printer, you know that PostScript printers generally cost twice as much as non-PostScript printers. Our price for this PostScript printer is about the same as the lowest priced 4 ppm printers without PostScript. So don't risk being stuck without PostScript when you can now get it for the same price! Like every product we sell, this printer is backed by our 1 Year Parts and Labor Warranty. Unlimited free technical support is available from the friendly experts in The Printer Works' technical support department. If you're not completely satisfied for any reason, you can return it for a full refund within 30 days. No hassle, no questions asked! Quantities are limited—order yours today!

ORDER TOLL FREE
1-800-225-6116

the PRINTER WORKS
3481 Arden Road, Hayward, CA 94545

30 DAY MONEY BACK GUARANTEE

GET THE EDGE

ALPS MAKES A GREAT PRINTER --

AND HAS THE EDGE OVER THE LASER JET

Enhance Your Image with the ALPS LSX1000

The ALPS LSX1000 is quite simply the best, most-affordable high-resolution laser printer available anywhere. It prints at a stunning 600 x 600 resolution with automatic smoothing and image shading. It is 25 percent faster than the HP Laser jet 4. It switches dynamically between PCL, HP-GL and POSTSCRIPT languages to accommodate multi-environment and network applications (which costs extra on the HP). It offers the best warranty available anywhere. Its' industry-leading warranty is three times better than any competitor's warranty. And it costs a whole lot less than the competition. Call your nearest authorized EDGE's resellers (listed below) for more information.

- 10 pages per minute (just 20 sec. for first page)
- ALPS EXCLUSIVE 3-YEAR WARRANTY
- 600 x 600 resolution
- PCL and Postscript Compatible
- 83 Resident Fonts
- 2MB RAM expandable to 34MB
- Built-in network MI/O for connectivity
- Includes Windows optimization features
- Standby mode for power savings

Key Features	ALPS LSX1000	HP Laser Jet4
Speed	10 pages/min	8 pages/min
Resident Fonts	83	46
Postscript	Standard	Optional
Warranty	3 years	1 year
Price	$1199*	$1329**

$1199 SPECIAL
ALPS
WARRANTY
3 YEAR
ALPS EXCLUSIVE
DEALER WANTED

The Edge Technologies Edge

Edge Technologies distributes high quality products such as the ALPS LSX1000 to its storefront dealers and value-added resellers throughout North America. Edge has quickly become the leading distributor of ALPs printer products because it offers excellent support and a full range of customer-responsive programs including reseller authorization, advertising, evaluation units and high quality support. Call today to find out how you can take advantage of our edge in technology distribution.

Authorized Resellers:

NCA Computer Products

Sunnyvale
1202 Kifer Rd.
Sunnyvale, CA 94086
Tel:(408)739-9010

San Jose
962 Blossom Hill Rd.
San Jose, CA 95123
Tel:(408)363-4800

Frement
40521 Albrae St.
Fremont, CA 94538
Tel:(510)249-0850

HiQ

South Bay
740 N. Mary Ave.
Sunnyvale, CA 94086
Tel:(408)245-5836

Marin County
2048 Fourth St..
San Rafael, CA 94901
Tel:(415)459-1893

Sacramento
1967 Zinfandel Dr.
Rancho Cordova, CA95670
Tel:(916)635-7842

HD Computer

Sunnyvale
1196 Kern Ave.
Sunnyvale, CA 94086
Tel:(408)720-0493

San Francisco
500 Washington St.
San Francisco, CA 94111
Tel:(415)434-8118

El Cerrito
10005 San Pablo Ave.
El Cerrito, CA 94530
Tel:(510)528-0753

Sacramento
2530 Watt Ave.
Sacramento, CA95821
Tel:(916)483-4278

Call Edge today to find out about reseller opportunities.

Tel 800-FON-EDGE (366-3343)

Resellers and Corporate Govt. purchasing agents only

EDGE

Alps is trademark of Alps Electric (USA), Inc. All other trademarks are property of their respective owners.
* Special price available through Edge Technologies resellers.
** Price advertised.

The Software-Monopoly Lunacy

Write A Routine; Fork Over A Fee

BY JIM WARREN

These columns concern what isn't, but could be—in this case, for the worse, unless we act *now.*

Last September's column was ever-so-politely titled, "Software Patents SUCK!" But I had no *idea* how bad the situation was. Folks have sometimes accused me of losing my mind, but I sure as hell didn't expect to lose it to 17-year monopolies.

EVERYBODY IS SCREWED!

(Everyone, that is, except the intellectual-property lawyers and litigators.)

Want to write a macro in QuattroPro or Excel? Better check with your lawyer, first. Write it in 1-2-3? Ask Lotus for the names of the other spreadsheets in which they will permit you to use "their" macro that you write. Better get their permission in writing.

REALIZABLE FANTASIES

Thinking of building a command file? Your control sequence may be patented—for 17 years. And Gawd forbid you might want to write a real, honest-to-goodness subroutine, object module, or (*gasp!*) computer program—but *surely* not before you finish Law School.

Copyright © 1994 by Jim Warren; email/jwarren@well.sf.ca.us; 345 Swett Rd., Woodside CA 94062. Permission herewith granted to copy-in-full for any nonprofit use.

CONSTITUTION BE DAMNED

The Constitution authorizes patents "To promote the progress of science and useful arts." See if you think this qualifies:

Doug Brotz, Principal Scientist for Adobe—with a Stanford Ph.D. in Computer Science and extensive research experience at exotic Xerox Palo Alto Research Center (X-PARC)—wrote the first PostScript interpreter while Adobe guru John Warnock whispered in his ear. But now, he doesn't have time to promote progress. His full-time assignment is to advise Adobe's defense attorneys and watch out for software monopolies. Note: Adobe strongly opposes software patents.

Paul Heckel—once a diligent technical innovator—got a patent on a software innovation. But he was neither wealthy nor a patent lawyer. So he has spent most of the past decade in bitter, often unsuccessful efforts to defend his "property." Time, energy, and resources diverted from innovation that could promote progress and earn him rewards, if he had just not believed in patent protection. (Similarly, television's inventor and patent-holder never received a penny, even after years of litigation. Xerography's inventor and patent-holder didn't get any money until he was a bitter old man.)

Microsoft reportedly spent $25 million to license IBM's software-patent portfolio—but not for use; just for defense. Sun won't even *say* how many millions *they* paid to license IBM's patents. Autodesk has already blown over $1 million successfully fighting off sixteen patent claims made against it with endless frivolous claims and litigation guaranteed by software patents.

More and more financial resources and technical talent are being wasted on filing and defending against such patent claims, endless searches for prior art (which invalidates patents), endless depositions, and endless trials.

Lotsa loot for lawyers, but none for progress.

REPLACING PROGRESS WITH POSSESSION

For computing's first 35 years or so, computer algorithms couldn't be patented. Then, in *Diamond v. Diehr*, the US Supreme Court permitted the patent of a rubber-mold system controlled by a program that implemented a well-understood algorithm. And the lawyers' feeding frenzy began.

A decade later, in 1991 alone, there were sixty-six hundred software-patent applications filed. In 1992, there were seventy-five hundred. Last year, it increased to eighty-three hundred.

IBM reportedly holds the most patents controlling everything that works like their software monopolies. AT&T may be second. Benevolent Billie's Microsoft is comin' up fast. Several Japanese corporations are pursuing software research, reportedly filing for US patents on every semicolon and comma.

Patent monopolies last six years longer than the IBM PC or Mac have even existed, and are retroactive to the beginning of time.

DELUSION OF DISCLOSURE

The theory of patents is that the required public disclosure accompanying their monopoly protection will promote progress by permitting others to see how innovation was accomplished.

But computer users and programmers and innovators are prohibited from knowing anything about the software-patent applications that threaten them for at least one year—often three to five years or more after they are filed—because patent applications in the US (but not in many other countries) are secret until they are granted.

In an industry with a half-century tradition of eager sharing—allowing us all to stand on each others' shoulders, rather than on each others' toes—we are beginning to hear programmers cringe and bleat that they can't talk about what they are doing because it's tied up for a few years in a secret patent application.

And the government actually pretends this "promotes progress."

HEARINGS: WAIT & HURRY UP

Actually, the Patent and Trademark Office (PTO) probably knows better—but it's so

MDS

Rock Bottom Price
Quality, Service

0% FINANCING
No payments for 90 days!

ValueLine

486-ValueLine

(4MB/128K/130MB)

Intel 486 Processor
4MB 70ns RAM, 128K Cache
Teac 3.5" Diskette Drive
130MB IDE Hard drive
2 Serial, 1 Parallel & 1 Game Ports
Trident SVGA w/512K RAM
14" Color SVGA 1024
Mini Tower Case w/250W PS
101-Key Keyboard
MS-DOS V6.2 with Manual
3-Button High Resolution Mouse

Special

4SX-25	4SX-33
$915	$945
4DX-33	**4DX2-66**
$1110	$1320

486VL-ValueLine

(4MB/256K/250MB/14")

Intel 486 Processor
238 pin ZIF Socket for Pentium
Based OverDrive Processors
4MB RAM, 256K Cache
Teac 5.25" & 3.5" Diskette Drives
250MB IDE Hard drive
2 Serial, 1 Parallel & 1 Game Ports
VL-Bus Windows Accelerator w/1MB DRAM
14" Color SVGA 1024x768 NI
Mini Tower Case w/230W Power
2-VL Bus Slots, 7 16-Bit ISA Slots
High Quality 101-Key Keyboard
MS-DOS V6.2 with Manual
3-Button High Resolution Mouse

4DX-33	4DX2-66
$1335	$1559

Vesa Local Bus

486VL-WinStation

(8MB/256K/245MB/15")

Intel 486 Processor
238 pin ZIF Socket for Pentium
Based OverDrive Processors
8MB RAM, 256K Cache
Teac 5.25" & 3.5" Diskette Drives
245MB IDE Hard drive
VL-Bus IDE Interface
2 Serial, 1 Parallel & 1 Game Ports
Orchid Fahrenheit VLB Accelerator
1MB DRAM (up to 2MB)
15" MAG Flatscreen SVGA 1280 NI
Middle Tower Case w/250W Power
2-VL Bus Slots, 7 16-Bit ISA Slots
High Quality 101-Key Keyboard
MS-DOS V6.2 with Manual
3-Button High Resolution Mouse

4DX-33	4DX2-66
$1930	$2140

486VL-PowerStation

(16MB/256K/345MB/17")

Intel 486 Processor
238 pin ZIF Socket for Pentium
Based OverDrive Processors
16MB RAM, 256K Cache
Teac 5.25" & 3.5" Diskette Drives
345MB IDE Hard drive
VL-Bus IDE Interface
2 Serial, 1 Parallel & 1 Game Ports
Diamond Viper VLB Accelerator,
2MB VRAM, Weiket P9000
17" MAG Flatscreen SVGA 1280 NI
Middle Tower Case w/250W Power
2-VL Bus Slots, 7 16-Bit ISA Slots
High Quality 101-Key Keyboard
MS-DOS V6.2 with Manual
3-Button High Resolution Mouse

4DX-33	4DX2-66
$2979	$3199

Vesa Local Bus

P5 Pentium PCI

- Intel 60MHz Pentium Processor
- 16KB Internal Cache
- 256KB External Cache
- 8MB 72-pin RAM
- 1.2MB FDD
- 1.44MB FDD
- PCI SCSI II Controller
- 345MB SCSI HDD
- 2-16550 UART High Speed Serial Port
- 1 Parallel Port
- Cardex ET-4000W 32p PCI Windows Accelerator/2MB
- Mid Tower Case w/250W Power Supply
- 15" Non-Interlaced Flat Screen Monitor .28dpi
- 101 Enhanced Keyboard
- Microsoft Serial Mouse

$3150

P5 Pentium Local Bus

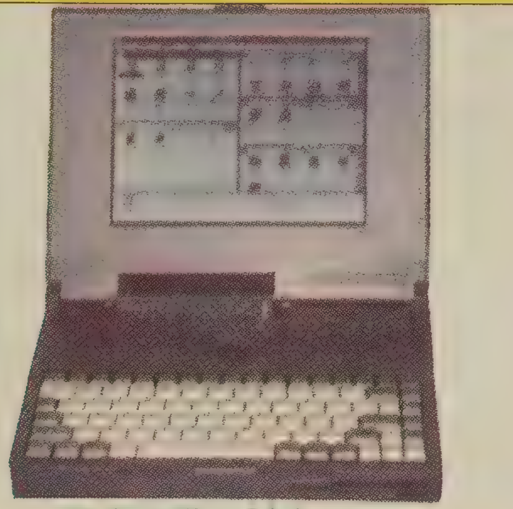
- Intel 60MHz Pentium Processor
- 16KB Internal Cache
- 256KB External Cache
- 8MB 72-pin RAM
- 1.2MB FDD
- 1.44MB FDD
- 32-Bit VLB IDE Disk Controller
- 424MB IDE HDD
- 2-16550 UART High Speed Serial Port
- 1 Parallel Port
- Cardex ET-4000W32i VLB Video Card/2MB
- Mid Tower Case w/250W Power Supply
- 15" Non-Interlaced Flat Screen Monitor .28dpi
- 101 Enhanced Keyboard
- Microsoft Serial Mouse

$2950

Without Sacrificing or Performance

UP GRADE WITH MDS

PATRIOT 2000



Only 5.5lbs with battery

Specifications:

9.5" Mono 640x480 64 Gray Simultaneous CRT & LCD Display 1024x768 16 Color in CRT Mode.

One Serial Port, One Parallel, One External VGA Port, One Extended Keyboard Port, One External PS/2 Mouse Port and One 200-pin Docking Station Port.

Intel 486SX/25 (optional 486SX/33, DX/33 and DX2/66) 4MB RAM (Exp. to 8MB or 20MB).

Built-in TrackBall 16mm PS/2 Type.

One Internal 3.5" 1.44MB Floppy Drive and 125MB Hard Drive (Optional 212MB).

486SX/25MHz	**$1329**
486SX/33MHz	**$1399**
486DX/33MHz	**$1599**
486DX2/66MHz	**$1825**

UPGRADES

125MB HD to 250MB	**$130**
4MB to 8MB RAM	**$249**
96/24 Internal Fax/Modem	**$125**

MDS8200 VL BUS 486

Specifications:

Vesa Local Bus IDE & VGA Display
Intel 486DX/33 (66MHz Optional)
4MB RAM (8MB & 20MB RAM Optional)
125MB HD (212MB & 350MB HD Optional)
3.5" 1.44MB Floppy Drive
9.5" Mono, Passive or Active Color
Built-in Trackball
Two (2) PCMCIA Slots (type 2)
Intelligent Power Management
2-Hr Battery Time & 2 Hrs Quick Charge
Ports for 1S, 1P, PS/2 KB, VGA Monitor &
Vesa bus for docking station
MS-DOS v6.2
Carrying Case & AC Adaptor
6.2lbs & 11"x8.7 x2"

Mono	**$1769**
Dual Scan	**$2395**
TFT Color	**$3395**

Add $250 for DX2-66MHz

DRIVES

TEAC 1.2MB 5.25"	$50
TEAC 1.44MB 3.5"	$45
TEAC Floppy Combo	$125
130MB 15ms	$179 IDE/189 SCSI
245MB 14ms	$230 IDE/260 SCSI
345MB 14ms	$309 IDE/345 SCSI
540MB IDE 8.5ms	$659 IDE/639 SCSI
MXT-1240S (SCSI, 8.5ms)	$1199

MULTIMEDIA

CD-ROM DRIVES

PANASONIC 562 CD-ROM (300KB/SEC)	$219
SONY 31A03 CD-ROM W/KIT (300KB/SEC)	$205
TEXEL DM-3028 INT. (300KB/SEC)	$360
TOSHIBA 3401B/3401E (200ms)	$375/499
PANASONIC 562+ SBlaster Pro	$325

WARRANTY

1 Year Parts
3 Years Labor

CD TITLE BUNDLE SPECIALS

Children Pack: $95
Arthur's Teacher Trouble
Barney Bear goes to school
Beauty and The Beast
MacMillian Dictionary
Mixed up Mother Goose

Fun Pack: $90
Chessmaster 3000 MPC
King Quest V
Space Quest IV
Stellar Seven
Wing Commander/ Ultima VI

EDU-Family Pack: $105
Microsoft Works
Mario is missing/World Atlas
Mayo Family Clinic
National Geographical Mammals
Reference Library by STW

Business Pack: $175
American Business Phonebook
Font Master Vol 1
Kodak Photo Access CD
Lotus 123 for Windows
Publish-It 2.0

Teenager Pack: $110
Brain Drain Games
Grolier's Ency. 92 MPC
Mantis Experimental Fighter
Reference Library
US History

Education Pack: $95
Carmen San Diego Deluxe
Dictionary of the Living World
Jones in the Fast Lane
MacMillian Dictionary
Playing w/Languages English

Variety Pack: $85
Cookbook Heaven
GIFS Galore
Mirror Mirror Games
Complete Bookshop
Our Solar System

Adult Pack: $95
All Beauties
Digital Dreams
Ecstacy Hot Pix
Southern Beauties
For Mature Adults

SAN FRANCISCO
3210-3212 GEARY BLVD.
SAN FRANCISCO, CA 94118
(415) 750-0863 FAX (415) 750-0649
800-748-6323
M-F 9-6, SAT 10-5

BERKELEY
2324 SHATTUCK AVE.
BERKELEY, CA 94704
(510) 540-8283 FAX (510) 540-8285
800-938-8283
M-F 9-6, SAT 10-5

SACRAMENTO
6644 FAIR OAKS BLVD.
CARMICHAEL, CA 95608
916-488-8523
M-F 9-6, SAT 10-5

Professionalism

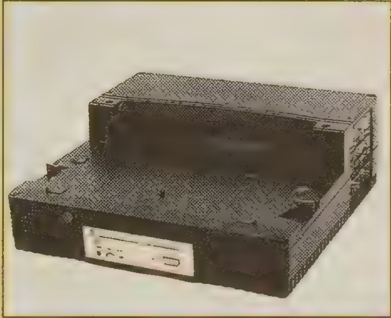
A Highly trained personnel staff brings you knowledgeable and courteous assistance without wasting your valuable time.

Quality

True savings only come with high-grade products with competitive prices. Get the best, from the best, at MDS!

Service

We service you not just before you buy, but after the sale too! We pride ourselves on keeping in close contact with the customer to ensure top-notch service for as long as you need assistance. We provide solutions at MDS.



DOCKING STATION

2 VESA & 4 ISA Slots
Built-in SCSI Controller
2 Serial and 1 Parallel
1-5.25" and 1-3.25" Bay
1 Keyboard and 1 Video port
Built-in 2 speakers for multimedia

$449

TERMS: No surcharge for VISA, Master Card and Discover. We accept government, educational and corporate purchase orders. Prices and specifications are subject to change without notice. All items are subject to availability. We are not responsible for errors in typography or photography. Each branch is privately owned and operated. The Intel 486 Inside Logo and Pentium are trademarks of Intel Corporation. All other brands and product names are trademarks or registered trademarks of their respective companies.

glutted with intellectual-property attorneys that it can't conceive of the notion of *not* patenting the mind's methods for solving intellectual problems if mimicked by machine.

Nonetheless, in October, ex-corporate-lobbyist Secretary of Commerce Ron Brown and his staff were thoroughly torched by software progress-producers screeching about the software-patent nightmare. Brown's new Patent and Trademark Commissioner, Bruce Lehman, promised to hold hearings on the problem.

All of November—nary a word. Halfway through December, still nothing. Then, four days before Xmas Eve began the year-end unwork period, the first notice of January hearings appeared in the *Federal Register.* (In fairness, a staffer said they had submitted the information three weeks earlier. Maybe they didn't know about the *Register's* delays.)

Hearings were scheduled in San Jose for January 26–27, and for February 10–11, safely back in the arms of Washington's Beltway Bandits (in Arlington, VA).

(In one San Jose comment, PTO Commissioner Lehman even referred to coming to California as a "junket" that he didn't want him or his staff to do very often. And, my fellow California hicks, Lehman is reputed to be one of the *good* guys—*honest!*)

PTO'S BIASED HEARINGS

The title of the hearings illustrated how the deck was stacked: "Public Hearings on Patent Protection for Software-Related Inventions."

Have *any* of our two hundred thousand-plus readers *ever* seen that phrase—"software-related inventions"—in *any* computer publication, *except* in the context of legal efforts to pervert the patenting of gadgets so as to monopolize machine-assisted intellectual processes?

Some folks said the San Jose hearings were nothing but a political sop to Silicon Valley—that they had already decided software patents were "good" and were just trying to figure out how best to nail the coffin shut. Actually, I got the impression Lehman and his staff were sincerely interested in trying to nibble at some of the more outrageous problems, but that he wasn't about to favor returning software to its patentless status that produced *all* of computing's progress prior to the past few years.

It's Alive!

State Legislative Information Now Online

Many of my columns last year concerned efforts to pass AB1624 (by Bowen, D-Torrance) to make all state legislative information—bills, amendments, agendas, votes, etc.—plus all state statutes and the baroque state Constitution available via the Internet, without any state charges. It's now law—Calif. Govt. Code 10248. And it's now live—available by "ftp" for those with access to the Internet's file-transfer protocol, and by "ftpmail" for anyone who can at least send and receive mail to an Internet address.

"For A Good Time, Call..."

To begin participating in your own governance send Internet email as follows:

Email to: `ftpmail@leginfo.public.ca.gov`
Subject: *<optional—FTPmail ignores the subject line>*
Message:

```
connect leginfo.public.ca.gov
help
quit
```

And, to retrieve the two introductory and instructional files, send this email:

Email to: `ftpmail@leginfo.public.ca.gov`
Subject: *<optional—FTPmail ignores the subject line>*
Message:

```
connect leginfo.public.ca.gov
get README_WELCOME
cd pub
get README_FIRST
quit
```

If you already use an Internet host and are familiar with "ftp," you can begin by retrieving about a dozen self-evident `README` files and about four self-evident `index` files by:

```
ftp leginfo.public.ca.gov
```

Anyone can send comments and presumably questions:

Email to: `comments@leginfo.public.ca.gov`

Note: Upper- and lower-case is important, and *none* of these lines end with periods!

For "Full" Internet Access

Now, now—no whining about the Legislature not providing every kind of access you can dream up, e.g. **telnet**, exotic indexers and search tools, etc. Their job is to support the Legislature; it's not to spend vast sums fulfilling each citizen's techno-whim. They are running a relatively low-cost system with minimal staff, and are providing the information for free, in a form they can generate easily, that almost everyone can use—ASCII. (Hmmm, who will be the first to auto-convert it to 6-bit Baudot-code for the low-cost terminals that are popular among the hearing-impaired? Lemme know, and I'll publish it.)

There are already a number of Internet sites that are pulling all files across from the legislative system and will be offering usually free access via standard Internet indexing, searching, reading, and retrieval tools—**gopher**, **WAIS**, **WWW**, etc. To receive ongoing details, read on.

For 'Net Novices

It's also not the Legislature's job to teach folks how to use the Internet—no more so than it is CalTrans' job to teach people how to drive and where to find filling stations. Two of the best tutorials and handbooks for novices about the Internet are: *The Whole Internet: User's Guide and Catalog,* by Ed Krol, from O'Reilly & Associates, 1-800-998-9938; and *Zen and the Art of the Internet,* by Brendan Kehoe, from Prentice Hall.

Updates & What's Next

Making legislation available online and without state fees was last year's project—done! This year, we want to mandate timely, online access to political disclosures—state and local campaign finances and officials' declarations of their economic interests, plus state lobbyists disclosures. Watch this column for progress reports.

But such things move much too fast for a monthly magazine to do anything more than report history. To be informed in time to participate in the process—rather than just snarl about the results—have your email address added to my online "GovAccess" distribution list. Just send a request to me, `jwarren@well.sf.ca.us` (no period at the end).

—Jim Warren

CommandLine Computers

The difference is experience.

FREE ON-SITE SERVICE IN THE BAY AREA
PURCHASE ORDERS ACCEPTED
PERSONAL FINANCING

$0 Down, 90 days same as cash with deferred option

Easy to apply and fast credit decision, You can finance more than the amount of purchase.

HIGH POWER PERSONAL COMPUTING

- **P5 Pentium Local Bus System**
- Intel Pentium 60MHZ Processor w/Cooling Fan
- 16KB Internal Pentium Cache
- 256K External Cache Expandable. to 512K
- 16MB RAM (72PIN) Expandable to 128MB
- 1.2 MB and 1.44MB Floppy Drive-Teac
- **540MB SCSI II Hard Drive**
- **Adaptec 2842 SCSI II Controller**
- 2-16550 High Speed Serial Ports, 1 Parallel Port
- Diamond Viper 32 VESA 1280 x 1024 w/2MB VRAM
- 15" 1280x1024 SVGA Monitor, 0.28 NI
- Full Tower Case w/250W Power Supply
- Hi-Res Mouse
- 101 Key Enhanced Keyboard

ONLY **$3695**

or **$125/Mo**

PCI SYSTEM NEW TECHNOLOGY

- Intel DX2-66 MHZ w/Cooling Fan
- 256K Cache Expandable to 512K
- 8MB RAM (72PIN) Expandable to 128MB
- Intel Saturm PCI chipset
- 1.2 MB and 1.44MB Floppy Drive
- 540MB SCSI II Hard Drive
- PCI Local Bus SCSI Controller
- 2-16550 High Speed Serial Ports, 1 Parallel Port
- Diamond Viper 1280 x 1024 PCI w/2MB
- 15" 1280x1024 SVGA Monitor 0.28 NI
- Mid Tower Case w/230W P/S
- 101 Key Enhanced Keyboard Mitsumi
- Hi-Res Mouse

ONLY **$2495**

or **$65/Mo**

COMMANDLINE PREMIER

- 486DX2-66/DX-33 VESA Local Bus
- Intel Pentium Overdrive (ZIF Socket)
- 256K SRAM Cache
- 4MB RAM Expandable to 32MB
- 1.2 MB and 1.44MB Floppy Drive - Teac
- 270MB Quantum IDE Hard Drive
- 32 Bit VLB 2FDD/ 2HDD IDE Controller
- 2 Serial, 1 Parallel,& 1 Game Port
- 32 Bit VLB Window Accelerator w/1MB
- 14" 1024x768 SVGA Monitor 0.28 NI
- Mini Tower Case w/200W P/S
- 101 Key Enhanced Keyboard
- Hi-Res Mouse

ONLY **$1495/$1295**

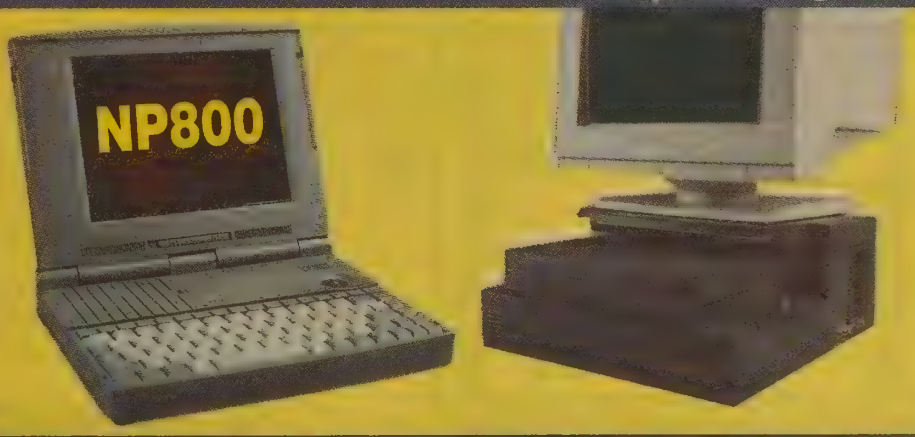
or **$50/Mo/$45/Mo**

CALL FOR CUSTOMIZED CONFIGURATION...

SAGER NP843T The BEST OVERALL Color notebook as reported by BYTE Oct. 93 BYTE BEST

LOCAL BUS NP800 or 8200 SERIES

- Local Bus IDE & Local Bus VGA display
- 4MB RAM expandable to 20MB
- Super fast 120MB hard drive (240. 340MB option)
- 1.44MB floppy drive
- 10" Mono LCD VGA 640 X 480 64Grays, 10" active matrix LCD VGA 256 colors
- Simultaneous CRT & LCD display
- Large built-in 16mm trackball
- **2PCMCIA** type I & II or I type III IC card slot
- Ports for 1S. 1P. Ext keyboard. VGA monitor & AT/BUS for docking station
- MS DOS 6.0
- Carrying case & AC adaptor
- 11" W x 8.6" D x 1.77" H
- Weight 6.2 lbs.(with Battery)



NP800/NP8200	Mono	Dual Scan	Active Color
486DX-33	$1725/1795	$2350/2395	$3385/3395
486DX2-66	$1925/2025	$2550/2645	$3595/3640

DOCKING STATION **$445**

- Two 32-bit VESA LB slots (NP 8200 series only)
- Four 16-bit ISA slots
- One 3.5" drive bay
- One CD-ROM or 5.25" drive bay
- 2S and 1P ports
- One external keyboard port
- One 15-pin external video port
- Two internal speakers
- 115/230V. 150W AC adaptor

OPTIONS:

- Car adaptor
- Bettery Charger
- PCMCIA card
- Docking station

CommandLine Computers Inc.

OPEN : M-F: 9-6, SAT: 10-4

921 Kifer RD, Sunnyvale, CA 94086

Bus:(408)735-7940

Fax:(408)735-7944

(Corner of Commercial and Kifer)

• 1 Year Parts Warranty, Lifetime Toll Free Technical Support, 30-day Money Back Guarantee (for CommandLine brand products only) Corp. 1000, University and Government PO's Are Welcomed!! No Surcharge on Visa or Mastercard • Prices Subject to Change Without Notice • Not Responsible for Typographical Errors • All Opened Returns Are Subject To 15% Restocking Fee • 14 Process Days for Purchase Refund

SAGER 4.0 Lbs Sub-Notebook

- Cyrix 486SLC-33MHz (NP-433)
- 4MB RAM expandable to 20MB
- 120MB hard drive
- 1.44MB floppy drive (external)
- 8.5" 640 x 480 backlight VGA mono
- Simultaneous CRT & LCD display
- Large built-in trackball
- 1 PCMCIA type I & II card slot
- 1S. 1P port
- Carrying case & AC adaptor

Mono	$1475
Passive color	$1975

Docking Station optional

EXTEND YOUR PC POWER W/MULTIMEDIA PACKAGE

PANASONIC-DUAL SPEED **$345**

- **ADDONIC 16bit Sound Card**
- **Speakers**
- **6CD Titles**

TOSHIBA DOUBLE SPEED **$565**

- **Pro Audio Spectrum 16**
- **6 CD Titles**

-Groller Encycropedia
-Animals
-U.S. Atlas
-World Atlas
-Mavis Beacon Typing
-Chessmaster 3000

MONTHLY SPECIAL

PC NET

UPGRADE AND REPAIR WITH US

TEL: 415-292-5196
FAX: 415-292-5197

COMPETITIVE PRICING!

INSTANT & OUTSTANDING SERVICE
On-Site Service Available

VESA LOCAL BUS SYSTEM

- Mini Tower Chassis w/PS
- Motherboard & CPU (AMI BIOS)
- Pentium Ready Systems, 3 Slots VLB
- 4MB RAM Memory 70ns
- 1.2 & 1.44 Teac Floppy Drives
- 250MB Hard Drive
- IDE VLB Controller with I/O
- 32-Bit Cirrus Logic VLB Graphic Accellerator Card 1MB
- 14" SVGA Monitor .28dp
- High Quality 101 Keyboard
- 3-Button Mouse

Intel 486DX/33 128K Cache.......$1145
Intel 486DX/50 128K Cache.....$1309
Intel 486DX2/66 128K Cache....$1345

MULTIMEDIA SYSTEM

- Intel 486DX 33/256K Cache VESA Local Bus AMI BIOS
- Pentium Ready Systems, 3Slots VLB
- 4MB RAM Memory 70ns
- 1.2 & 1.44 Teac Floppy Drives
- 270MB Hard Drive
- IDE VLB Controller with I/O
- 32-Bit Genoa VLB Graphic Accellerator 1MB Video Card
- 14" SVGA Monitor .28dp Non-Interlaced
- High Quality 101 Keyboard
- Mini Tower Chassis w/PS
- 3-Button Serial Mouse
- Mitsumi FX001D Double Speed 250ms access time CD ROM
- 16 Bit Sound Blaster MCD
- 2 Speakers
- 4 CD (10 Titles)

$1609

ISA BUS SYSTEM

- 386DX/40 128K Cache
- 4MB RAM Memory
- 1.44 Floppy Drives
- 120MB Hard Drive
- IDE Controller with I/O
- SVGA Color Graphic Card w/1MB
- 14" SVGA Monitor .28dp
- High Quality 101 Keyboard
- Mini Case

$769

GENOA SYSTEM

- Genoa 486VLB w/256K Cache
- Pentium Ready System
- 4MB RAM 70ns
- 1.2 & 1.44 Teac Floppy Drives
- 345MB Hard Drive
- Mini Tower Case w/PS
- 3-Button Mouse
- IDE VLB Controller with I/O
- 14" SVGA Monitor Non-Interlaced
- Genoa Video Card
- Keytronic Keyboard
- **Intel 486DX-33 256K Cache**

$1322

- **Intel 486DX2-66 256K Cache**

$1522

FREE Consultation, Novell Networks, Windows for Workgroups Set-Up, Installation & Delivery with purchase of 10 Node Networks or Under

Novell Certified NetWare Engineer

Networking Services

-Consultation
-Installation
-Annual Service Contracts
-Upgrade
-Support
-Service
-Network Design
-Cabling

Networking Software

Novell Netware 4.01/5 Users.......$799
Novell Netware 3.11/10 Users ..$1259
Novell Netware 3.12/10 Users ..$1349

Networking Hardware

Ethernet NE2000 Coaxial Comp $45
Ethernet 32-Bit EISA Combo..........$205
Ethernet VL-Bus Jumperless Combo........$205

Mon-Fri 10:00-6:30, Saturday 10-5
2739 Geary Blvd., (Masonic & Wood)
San Francisco, CA 94118

Call us before you buy...We'll save you $$$$$

Prices Reflect cash discount
Prices subject to change
w/out notice

CNE on Staff

1 Year Parts and
Labor Warranty

HACKERS HATED 'EM; LAWYERS LOVED 'EM

At the hearings, one quickly became able to predict what almost every speaker would say—just by their *appearance* as they approached the podium:

If they were somewhat rumpled, or informally dressed, much less sporting a beard or unkempt hair, they would identify themselves as programmers or technically competent CEOs of companies—and speak against software patents of any kind. (There were few exceptions.) Many of them outlined specific nightmares. Many tried to explain the crucial programming techniques and sharing that made software "the fastest growing industry in the United States, with 1992 sales...accounting for over $36.7 billion of our domestic gross product" [from the PTO hearings announcement]. The PTO officials listened, politely.

If speakers appeared to spend more money on their coiffures and three-piece suits than they spent on computers, they would identify themselves as intellectual-property attorneys and allow as how software patents were just dandy and should even be strengthened. (I didn't notice *any* exceptions.)

One of the speakers near the end of the second day pointed out that almost all of the technologists who had spoken were opposing software patents. Lehman said that there were a few exceptions, but said that the fact had not been lost on him and his staff. Apparently however, noted and ignored.

Lehman was clearly attentive, clearly concerned, and has a reputation for being willing to challenge the status quo—at least a little bit. At one point however, he *did* make it a point to say that he certainly didn't want to upset the five thousand PTO employees and their families. (*Hey!*, first things first.)

But it seemed clear that Lehman was totally rejecting the almost-universal anti-patent pleas of those programmers and technologists who were *promoting* progress, innovation, and productivity, in favor of the lawyers' elephant-swallowing rationales for software patents.

Okay—administrative appeals are exhausted. But this ain't finished, folks! See next month's column.

OR, MORE BRIEFLY...

Autodesk is reportedly the sixth-largest PC software publisher in the world, but nonetheless is vehemently opposed to software patents. (Full disclosure: I'm an outside member of its board of directors.)

Autodesk's programmer-founder, John Walker, put the software-patent issue most succinctly: "Should winners be chosen by customers, or courts?"

THE HORSE'S MOUTH

Jim Warren will speak about "Electronic Public Access to Government" before the Commonwealth Club in San Francisco, May 5th at 5 p.m. (415/597-6700). ■

Warren founded InfoWorld, *Wireless Digital, Initiative, Inc., and one of the nation's largest public microcomputer conventions. He was founding host of PBS's* Computer Chronicles, *founding editor of* Dr. Dobb's Journal, *and has chaired various trade and professionals' organizations. He holds graduate degrees in computing (Stanford), medical information science (UC Medical Center), and mathematics & statistics. He has been a computer professional since 1968, and was a mathematics teacher and professor for ten years before that.*

He organized and chaired the landmark First Conference on Computers, Freedom & Privacy (1991), was one of the first to receive the Electronic Frontier Foundation Pioneer Award (1992), led the recent successful effort to make state legislation and statutes available via the public nets without state charge, and is now pushing for computerized state and local political disclosures. He is also a member of Autodesk's board of directors.

Novell Certified NetWare Engineer

B.N.T.

Beta 90 s Network Technologies Inc.

(41) 952-0388 or (510) 682-8228

FREE

Computer Network Configuration Consultation

WE'RE READY WILLING & ABLE

Call now for an appointment with our Certified Netware Engineer!

If a limited budget is one of your major concerns, talk to us!

Take the Shortcut to Network Solutions!!

CALL NOW!

WE OFFER COMPLETE INSTALLATION, UPGRADES, AND A LOT MORE!

MOTHERBOARDS

386SX-33MHz w/CPU	$85
386DX-40MHz 128K w/CPU	110
486SX-25MHz w/CPU VLB	168
486DX-33MHz 128K w/Intel CPU	385
486DX-50MHz 128K w/Intel CPU	530
486DX2-66MHz 128K w/Intel CPU	605
VESA LB 486DX-33MHz 256K w/Intel CPU	395
VESA LB 486DX-50MHz 256K w/Intel CPU	540
VESA LB 486DX2-66MHz 256K w/Intel CPU	615
IBM 486SLC 2-66MHz VLB MB w/CPU, Math Chip & Heat Sink	305

MODEMS

Zoltrix 96/24 Fax/Data Int	$45
Zoltrix 14.4/14.4 Fax/Data Int	138
Zoltrix 14.4/14.4 Fax/Data Ext	175
US Robotics 14.4/14.4 Fax/Data Int	165
US Robotics 14.4/14.4 Fax/Data Ext	185

TAPE BACKUP

Colorado DJ20 250MB	$170
Archive XL 250MB w/Tape	158

THE LEADER IN CUSTOMER SERVICE

WE'LL MAKE SURE YOU LEAVE FEELING SATISFIED BECAUSE YOUR SATISFACTION IS OUR BIGGEST GUARANTEE.

SALES • SUPPORT
1 YEAR PARTS
2 YEARS ON LABOR
WARRANTY
SERVICE

CD ROMS

Toshiba XM-3401B (200ms) (Int)	$379
Panasonic 562 Double Speed (Int)	$199
NEC CDR-500 Triple Speed (Int)	$479
Discovery CD 16 Multimedia Kit	$438

SAVE $$$

VIEWSONIC 15E 15" FLAT SCREEN SVGA NON-INTERLACED COLOR MONITOR (1024X768 .28 DP)

$379

(Cash price only)

Wonder Systems Controllers

FIS Supports SCSI CD-ROM $ IDE (2H/4F)	$85
VLB-IDE+I/O 2HD/4FDD 2 HI Speed-16550 Serial Ports & 1 Parallel Port	$75
IDE 8 Co-exists with other controllers: SCSI, ESDI, RLL & MFM 4 IDE HD/4FDD	$68
IDE 4A 2 IDE HD / 4FDD	$29

486DX VESA Local Bus System

486DX-33MHz	$1338
486DX-50MHz	1489
486DX2-66MHz	1545

- Intel CPU w/8K Int. Cache & Math Co-processor
- 256K Ultra Fast External Cache
- 4MB RAM (Exp. to 32MB)
- 1.2MB & 1.44MB Floppy Drives
- 1:1 2H/2F IDE Controller (2S, 1P, 1G)
- Spider 32 Bits VLB SVGA Card w/1MB
- 250MB IDE Hard Disk
- 14" Full Screen SVGA Non-Interlaced Monitor (1024x768) .28dp
- 101 Enhanced Keyboard
- Mini Tower Case w/LED Display

$65 Less for ISA System

486SLC2-66 MHz VLB System

$1198

- System Board manufactured by IBM
- IBM 486SLC2-66MHz CPU
- 16K Internal Cache
- 64K External Cache
- On-board Math Co-processor & Heat Sink
- 4MB RAM
- 250MB IDE HD
- 1.2MB & 1.44MB Floppy Drives
- 1:1 2H/2F IDE Controller (2S, 1P, 1G)
- Spider 32 Bits VLB SVGA Card w/1MB
- 14" Full Screen SVGA Color Mon. (.28dp)
- 101 Enhanced Keyboard
- Mini Tower Case w/LED Display

Intel 486SX-25 Complete System

$958

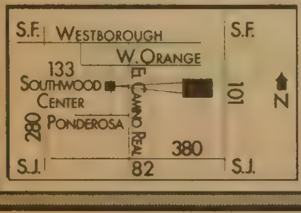
- Intel 486SX-25 MHz CPU
- 8K of Internal Cache
- 4MB Memory
- 1.2MB & 1.44MB Floppy Drive
- 210MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- Clock/Calendar
- 2 Serial, 1 Parallel, 1 Game Port
- 16 Bit SVGA Card (1024x768) w/512K
- 14" Super VGA Monitor (1024x768) .39 Dot
- 101 Enhanced Keyboard, Mouse & Pad
- Mini Tower w/PS

Super system for beginner

486DLC-33MHz Multimedia System

$1245

- 486DLC-33MHz CPU, AMI BIOS
- 64K External Cache (Exp. to 256K)
- 4MB Memory
- 170MB IDE Hard Disk
- 1.2MB &1.44MB Floppy Drives
- 1:1 2H/2F IDE Controller (2S, 1P, 1G)
- 16 Bits SVGA Card (1024x768) w/1M
- 14" Full Screen SVGA Color Monitor (.39dp)
- 101 Enhanced Keyboard
- Mini Tower Case w/LED Display
- CD-Rom Drive w/4CD Titles
- Sound Blaster Compatible Sound Card



Monday-Friday
8:30–6:30
Saturday 10–5
1 Year Parts & 2 Years on Labor Warranty

BETA NINETIES COMPUTER INC

133 Southwood Center South San Francisco, CA 94080

415/875-6682
Fax 415/875-6683

Prices subject to change w/o notice. Not responsible for typographical errors.

MasterCard
VISA

OVER 4000MB! WITH COMPRESSION
NEVER ENOUGH SPACE!
MONSTER DRIVES!
Internal From $449 Complete External From $595
From $369!

Dazzling DAT Drives

Store from 1300 to 4000 megabytes on a DAT tape the size of a matchbook! DAT drives offer unbeatable performance and reliability. DAT tapes are super inexpensive and extremely rugged. For serious backup and data interchange, DAT is the only solution. 'Til now, the only problem has been the price! SCSI DAT drives typically cost $1500 or more! CSC has purchased a quantity of name brand factory refurbished DATs at unheard of prices. These drives are guaranteed to meet or beat new drive specifications and are available at a fraction of the cost of a new drive. Use our 15-day money back satisfaction guarantee to try this drive on your system. You'll be amazed at the performance and convenience DAT has to offer.

SPECIAL! DAT TAPE 5 PACK - $79!!!

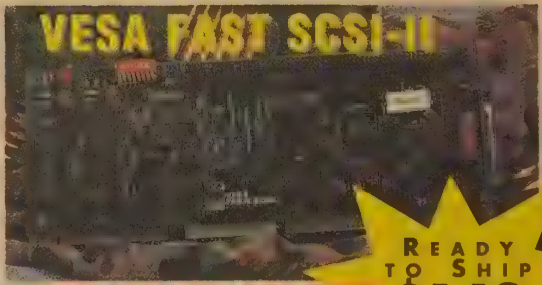
SCSI POWER TOWER

5 YEAR WARRANTY
AS LOW AS $495

CSC is now manufacturing the ultimate SCSI enclosure. Up to 8 half height SCSI hard, CD-ROM, optical, and tape drives can be configured to your specifications.

Whether you need a network storage subsystem, just an external SCSI drive case, or a full-blown disk array, CSC has it! We'll custom build it with the drives of your choice!

CALL (408)734-DISK TODAY



READY TO SHIP $149

AK47

Mainframe disk performance at PC prices! Until now, the performance bottleneck in most high end PC's has been the SCSI controller. Not now - CSC's fast VESA SCSI-II non-caching controller literally outruns almost any SCSI drive, blasting data onto the VESA bus. An on-board FLASH BIOS makes it easy to upgrade your controller as new features become available. Just call our BBS and download the latest SCSI codes - lifetime updates are free. Take advantage of the latest improvements in SCSI without switching to a new controller or changing chips! Run up to seven SCSI devices including hard drives, CD-ROM, WORM, erasable optical, DAT and tape drives from a single board! Call today for more information!

15-DAY

You won't be needing it, but everything that we sell is backed by our 15 day-no questions asked moneyback warranty.

FULL FACTORY 5 YEAR WARRANTY

HUGE DRIVES HUGE SAVINGS

You said you wanted **BIGGER** drives at **LOWER** prices? Well here they are. These large capacity FAST SCSI-II hard drives are all great deals, so what are you waiting for? At these prices they're bound to fly out the door, so don't wait too long! Call our sales staff today, and have the all the storage space you need!

GD 3540 540MB 12ms	$369
MAXTOR 1.2GB 8ms	$949
HITACHI 1.34GB 13ms	$995
IBM 0664 4GB 10ms	$3995

Hard Drive Bible

The essential reference manual and software for any dealer and system integrator who installs hard drives. The package includes: VHS video tape; massive listing of parameters and settings; jumper settings; controller card information; formatting answers; installation tips; Seagate's technical support software; CSC's performance test software; and more! Don't be without it!

ONLY $39.95

Faster Than a Speeding Hard Drive! Up to ONE GIG, 35ms Tahiti-1 Optical Drive, Only $1295!

These MaxOptix drives use erasable, removable media and perform just like a fast hard drive! Take advantage of this opportunity and order a fully-refurbished drive with a full CSC warranty. Kits are available which include a Megatower enclosure, FastCache controller with 1MB cache, 1GB disk and all the cables, ready to plug and play for $1595!

Resellers Are Welcome!
Call For Quantity Prices

We gladly accept Visa/Mastercard, COD or prepaid orders. No surcharge for credit cards.

CORPORATE SYSTEMS CENTER

1294 Hammerwood Ave. Sunnyvale, CA 94089
Tel.(408) 734-DISK
Fax (408) 745-1816

Prices subject to change. Quantities are limited on some items. All trademarks are property of their respective owners.

10,000 DISK DRIVES IN STOCK CALL FOR A COMPLETE LIST OF COMPETITIVE PRODUCTS

Examples of Idiotic Software Patents

In his opening remarks at the January 26–27 San Jose hearings on software patents, Patent and Trademark Commissioner Bruce Lehman said of his computer systems and applications examining group, "We use stringent hiring standards to ensure that our examiners come in with the proper background, and then provide training from experts in the field to ensure that they keep abreast of not only state-of-the-art technology but also of current legal standards."

Here are *some* examples of software patents that group has *already* granted, according to Gordon Irlam's written testimony prepared for the January hearings:

☛ Refac, a litigation company acquired patent #4,398,249, that contains a very broad claim covering "natural order recalculation" used in spreadsheets—*filed in 1970, but not issued by the Patent Office until 1983.*

☛ Cadtrak has collected large sums of money and successfully defended its monopoly on the use of the logical exclusive-OR function when applied to a bit in data memory and a bit in display memory [#4,197,590].

☛ XyQuest was reportedly forced to remove features from the latest release of the XyWrite word processor after being threatened by Productivity Software. Attempts to license the features proved unsuccessful as Productivity Software increased the fees every time XyQuest attempted to reach an agreement.

☛ Mark Williams Company has filed claims against numerous companies for using a host-independent network byte-ordering [#4,956,809].

☛ AT&T is finding itself free to start exercising its muscle. It first threatened members of the MIT X consortium alleging that the X11 windowing system was in violation of patent #4,555,775 in which AT&T patents the concept of a backing store. AT&T is now suing MCI for alleged software patent infringement.

☛ Novell is reportedly being sued for $220 million dollars by Roger Billings for infringing his patent #4,714,989 on the concept of a file server.

☛ Numerous companies have been forced to obtain licenses from RSA Data Security to use public-key cryptographic algorithms—even though the research and development were done under federal grants to Stanford and MIT. Not a patent issue, but still notable: The p.k. patents only apply to North America—mostly to the taxpayers who paid for their R&D.

☛ Unisys has claimed the data compression algorithm that is used in the Unix "compress" program.

☛ Microsoft is being sued by Stac Electronics for incorporating transparent data compression in MSDOS 6.0 [#5,049,881].

☛ And then there's the bizarre Compton patent on just about everything related to accessing multimedia files.

☛ Any word processor with a separate mode that the user selects when they wish to type in a mathematical formula [#5,122,953].

☛ Any word processor screen layout that simultaneously displays the global page heading/footing and the contents of the current page, and permits you to edit either [#4,984,162].

☛ Any word processor that has a feature that allows you to specify that a portion of the text should be shaded, such as may be useful when revising a manual, by enclosing the relevant text with command codes that turn shading on and off [#4,924,411].

☛ Any word processor that marks and makes correction to a document using two additional different colors [#5,021,972].

☛ A word processor that monitors the sequence of keys you type and tries to teach you about new features. If it notices you doing a particular sequence several times, it will display information about a simpler command sequence that may help you do what you want [#4,947,346].

☛ Use of different colors to distinguish the nesting level of nested expressions in computer programs [#4,965,765].

☛ Any spreadsheet that can automatically collapse rows that are hierarchically subordinate to another row [#5,255,356].

☛ Any spreadsheet in which a single cell can contain multiple fields [#5,247,611].

☛ Any spreadsheet in which each cell has a "next cell" attribute defining the next cell to advance to after having entered data into the current cell [#5,121,499].

☛ A file server that merges together multiple pending writes that require updating the same meta-data [#5,218,695].

☛ Remembering file access behavior and using it to control the amount of read-ahead the next time the file is opened [#5,257,370].

☛ Altering the working set of a process based upon its paging behavior and how its paging behavior changes in response to changes in its working set size [#5,247,687].

☛ Creating variable size disk partitions comprising tracks residing on multiple disks [#5,129,088].

☛ Any parallelizing compiler that estimates the execution time for each of a number of different parallelization conversions and selects the one that it thinks will be the fastest [#5,151,991].

☛ Using condition code graph analysis in a CPU simulator to determine whether it is necessary to simulate the generation of the condition codes [#4,951,195].

☛ Caching the most recent branch target code for simulating a procedure return instruction [#5,167,023].

☛ Any document storage system that has a digital camera to scan in documents, stores the documents on an optical disk, and uses optical character recognition to construct an index [#4,941,125].

☛ Generation of random numbers by feeding the output of one random generator into the input of another random number generator [#5,251,165].

☛ The computer graphics representation of a surface using an array of dots, rather than the more traditional wire frame model [#5,257,347].

☛ Quicksort implemented using a linked list of pointers to the objects to be sorted [#5,175,857].

☛ A calendar tool that includes a bar graph of the duration of each meeting and a composite bar graph of all meetings [#5,247,438].

☛ Simulating the access times associated with a CD-ROM by slowing down a hard disk [#5,121,492].

Software Patents: Speak Up Now

The pre-Christmas December 20th Federal Register hearings notice said that written comments would be accepted by the Patent and Tradmark Office (PTO) if they are received by the PTO no later than **March 15th**.

Comments can be submitted by snailmail, fax, or email, and they *explicitly* request that machine-readable copies also be provided (in any one of ASCII, WordPerfect-Mac, WordPerfect-DOS, WordPerfect-Win, Word-Mac, Word-DOS, or Word-Win formats).

Comments should include name, contact vectors, organization if any, type of organization or employment, and whether the comments are for the writer only, or represent the official position of the organization.

For Official Comments

Address comments to:
Bruce Lehman, Commissioner of Patents and Trademarks
attention: Jeff Kushan, Esq.
Box 4
Patents and Trademarks Office
Washington, DC 20231
and/or by fax to: (703)305-8885
and/or by email to: comments-software@uspto.gov

For questions, call Kushan at (703)305-9300 (but don't flame him; he's not the policy maker).

For *Productive* Comments

Any fixes or further screw-ups will be done by the Congress. PTO Commissioner Lehman has already said he's going to submit recommendations to Congress, shortly (and we who will be the victims darned-well aren't going to have any chance to review them before he submits them, either).

Congressional decision makers *need* to be flamed about this, preferably with concise rationales as to why patenting intellectual thought when mimicked by machine is so outrageous and dangerous—preferably in no more than two pages. Send letters at least to:

Senate Subcommittee on Patents, Copyrights, and Trademarks
•Sen. Dennis DeConcini, Chair, 328 Hart Senate Office Bldg. [Democrat-AZ]
•Sen. Dianne Feinstein, 331 Hart Senate Office Bldg. [Democrat-CA]
Washington, DC 20510

and to:

House Subcommittee on Intellectual Property and Judicial Administration
•Rep. William J. Hughes, Chair, 207 Cannon Bldg. [Democrat-NJ]
•Rep. Don Edwards, 2201 Rayburn Bldg. [San Jose area, Democrat-CA]
•Rep. Howard L. Berman, 2201 Rayburn Bldg. [Panorama City, Democrat-CA]
•Rep. Xavier Becerra, 1710 Longworth Bldg. [Los Angeles, Democrat-CA]
•Rep. Carlos J. Moorhead, 2346 Rayburn Bldg. [Glendale, Republican-CA]
Washington, DC 20515

Note: Phone calls to elected officials are almost worthless, unless you are a wheel or a big donor—which is often about the same thing in Washington.

Windows users!
Print 50%–70% Faster
doubleRES4™
$299^00
– turns an HP LaserJet Series II or Series III printer into a true 600x600dpi Windows™ print station!
- *Plugs into your LaserJet's optional I/O slot*
- *No extra memory needed for your LaserJet or your PC*
- *Supports TrueType and Adobe PostScript fonts*

The Power To EXPAND At A Price You Can AFFORD!
1-800-724-3000

Color VGA notebook!
33MHZ 486SLC
$1,795^00
★ *4MB RAM expandable to 8MB*
★ *120MB IDE hard drive • 1.44MB floppy drive*
• *82-key keyboard with trackball mouse*
• *Loaded with MS-DOS and Windows™*
• *Includes deluxe carrying case*

Call 1-800-724-3000
or fax your order to
(408) 727-2435

Peripherals Direct

SOME OF YOU WONDER WHY OUR PRICES ARE TOO LOW, AND WE WONDER WHY THEIR PRICES ARE TOO HIGH. NO WONDER WE'VE BEEN AROUND SINCE 1984!!

CONTROL Memory *factory outlet*

PRICES MAY BE MUCH LOWER BY THE TIME YOU READ THIS AD. PLEASE CALL FOR OUR CURRENT LOW PRICING.

SPECIAL OFFER! Personal attack alarm, small, lightweight and easily activated with the pull of a pin. Security for the whole family. Get one FREE with each multiple of $500 purchased.

AST

ADVANTAGE! PRO / BRAVO LC 486 4MB/8MB/16MB/32MB	$163/$325/$631/$1250
ADVANTAGE NOTEBOOK 4MB	$181
BRAVO/LC 3/33s 2MB/8MB	$88/$363
POWEREXEC EL/325SL/486 SPECIAL EDITION 4MB/8MB/16MB	$198/$429/$775
POWEREXEC 4/25SL 4MB/8MB	$243/$775
PREMIUM EXEC NOTEBOOK 4MB	$181
PREMIUM SERVER SE 32MB CPU UPGRADE	$1275
PREMMIA 4MB/8MB/16MB	$170/$325/$650

AMSTRAD LD-6000

1MB/1.5MB/2.5MB/4MB	$96/$117/$174/$273

APPLE

LASERWRITER PRO 600/630 4MB/16MB	$173/$631
LASERWRITER SELECT 310 1MB/4MB	$55/$173
LASERWRITER PRO 810 4MB/8MB	$281/$563
MACINTOSH IIci 4MB/16MB	$175/$660
MACINTOSH IIfx 4MB MODULE	$159
NEWTON 2MB~16MB FLASH CARD	$CALL
POWERBOOK 140/145/170 4MB/6MB	$185/$267
POWERBOOK 160/165/180 4MB/6MB/8MB/10MB	$185/$267/$364/$475
POWERBOOK 165C/180C 4MB/6MB/8MB/10MB	$185/$267/$387/$484
POWERBOOK DUO 210/230/250/270C 4MB/8MB/12MB/20MB	$205/$390/$748/$1188
QUADRA 800/840AV 4MB/8MB/16MB/32MB	$163/$319/$704/$1450
QUADRA 700/900/950 4MB/16MB	$170/$660

AT&T

6286/WGS 2MB	$95
6386/6386E WGS 2MB/4MB	$95/$190
593 LASER PRINTER 2MB/4MB	$141/$239

BROTHER

HL-4/4PS/4V/4Ve 2MB/3MB/4MB	$155/$205/$256
HL-6 SERIES 2MB/4MB	$144/$228
HL-8/8D/8E/8V 1MB/2MB	$104/$155
HL-10H 1MB/2MB/4MB/8MB	$62/$112/$204/$402
HL-10V/10DV/10PS/10DPS 2MB/4MB	$137/$220

COMPAQ

CONCERTO 425 4MB/8MB	$214/$438
CONTURA/386 2MB/4MB/8MB	$104/$178/$356
CONTURA/486 4MB/8MB/16MB	$184/$356/$781
DESKPRO 386-20e/254/25e/286e 1MB/4MB	$71/$215
DESKPRO 386-I/M/N SERIES 2/4/8MB	$94/$188/$356
DESKPRO 386s 1MB/4MB	$71/$215
DESKPRO 486/M-SERIES 2/4/8MB	$94/$188/$356
DESKPRO XE/560 & 5-60M/66M 8MB/16MB/32MB/64MB	$375/$730/$1425/$3000
LTE/286 1MB/2MB/4MB	$65/$100/$193
LTE 386s/20 1MB/4MB	$51/$241
LTE LITE/386-20/25/25C/25E 2MB/4MB/8MB/16MB	$120/$241/$406/$838
LTE LITE/486 4MB/8MB/16MB	$206/$390/$763
PAGEMARQ 15/20 4MB/8MB/16MB	$170/$325/$625
PORTABLE 486/C 2MB/4MB/8MB	$94/$183/$356
PRESARIO 2MB/4MB/8MB/16MB	$94/$183/$356/$750
PROLIANT/1000 486DX2/66 8MB/16MB	$356/$750
PROLIANT/1000 5/60 16MB/32MB	$730/$1425
PROLINEA 3/25s-zs 2MB/8MB	$85/$365
PROLINEA/486, CDS 2MB/4MB/8MB	$85/$183/$356
PROSIGNIA 5/60 16MB/32MB	$730/$1425
PROSIGNIA PC SERVER 4MB/8MB	$188/$356
SLT/286 1MB/4MB	$88/$234
SLT 386s/20 1MB/2MB/4MB	$83/$139/$225
SYSTEMPRO 386/486-33 2MB/8MB	$110/$410
SYSTEMPRO/LT 2MB/4MB/8MB	$96/$188/$356
SYSTEMPRO/XL 16/32/64MB	$730/$1425/$2875

CANON

LBP-4/4PLUS/4LITE 1MB/2MB	$140/$191
LBP-430 1MB/4MB	$57/$179
LBP-4SX 1MB/2MB	$104/$155
LBP-8II/8IIR/8IIT 1MB/2MB/4MB	$90/$133/$234
LBP-8III/8III+/8IIIR 1MB/2MB/3MB	$146/$196/$247
LBP-8IV/4U 1MB/4MB/8MB	$57/$179/$355
LBP-8SX 1MB/2MB	$104/$155
NOTEJET/486 2MB/4MB8MB	$95/$190/$350

C.ITOH

CI-4/4PLUS/78E 1MB	$73
CI-6 2MB/4MB	$147/$248
CI-8 1MB/2MB	$57/$105

COMMODORE

C286LT/C386LT 2MB	$104

DEC

DECpc 320P/325P 2MB/4MB/6MB	$104/$209/$319
DECpc 325SL 4MB/8MB/16MB	$198/$429/$775
DECpc 425SL 4MB/16MB	$243/$775
DECpc 486-ST SERIES 4MB/8MB	$183/$356

DATAPRODUCTS

LZR 1560/2060N 4MB	$250
LZR 855/PS 1MB/2MB/4MB	$88/$134/$243
LZR 960/965 4MB	$272
LZR 650/950 1/1.5/2.5/4MB	$96/$117/$174/$273

EVEREX

TEMPO/LX 2MB	$104

EPSON

EISA SERIES 1MB/2MB/4MB/8MB/16MB	$52/$104/$190/$371/$748
EPL-6000 1MB/2MB/4MB	$91/$147/$248
EPL-7000 2MB/3MB	$147/$198
EPL-8000 2MB/3MB/5MB	$125/$209/$345
EQUITY PLUS 1MB/2MB/4MB	$49/$96/$192

GRID

1660 2MB/4MB/6MB	$141/$264/$435
1720/1750 2MB	$164
CONVERTIBLE/1755 2MB/6MB	$141/$435

HEWLETT-PACKARD

95LX/100LX 512K/1MB/2MB SRAM	$94/130/238
100LX/OMNIBOOK FLASH CARD 1MB-16MB	$CALL
700/RX TERMINAL 2MB/4MB/8MB	$94/$183/$356
APOLLO 9000 400T 4MB	$328
APOLLO 9000 425E 8MB/16MB	$421/$836
APOLLO 9000 720/730 16MB/32MB	$869/$1806
DESKJET 500/500C/510/550C/PLUS 256K	$50
DESKJET 1200C/PS 4MB/8MB	$163/$313
LASERJET 2/2D 1MB/2MB/4MB	$86/$128/$225
LASERJET 2P/2P+/3/3D/3P/7550B PLOTTER 1MB/2MB/3MB/4MB	$69/$118/$166/$215
LASERJET 3SI 1MB/4MB/8MB	$55/$163/$313
LASERJET 4/4M/4SI/4SIMX 4MB/8MB	$183/$356
LASERJET 4P/4MP 2MB/4MB/8MB	$94/$163/$313
NETSERVER LE/LM 16MB/32MB	$719/$1636
VECTRA 386/25, 486/25U/33U/50U/66U 2MB/8MB	$94/$356
VECTRA 486M/MI/N/NI/XM 4/8/16MB	$183/$356/$750

KYOCERA

F1200S/2000A/3000A/3300 2MB/3MB/4MB	$159/$209/$260
F800/F800A/F800T 1MB/2MB/4MB	$103/$153/$255
F820/F1800/F1800A 1MB	$74

MANNESMANN TALLY

MT904/904PLUS 1MB	$73
MT-905 2MB/4MB	$147/$248
MT-908 1MB/2MB	$57/$105

IBM/LEXMARK

4019/4019E 1MB/2MB/3.5MB	$86/$135/$208
4029/4037 2MB/4MB	$98/$184
4039/PS4079 4MB/8MB	$163/$313
CL57SX 2MB/4MB/8MB	$111/$225/$430
L40SX 2MB/4MB/8MB	$104/$200/$378
N33SX 2MB/4MB	$105/$200
PS/NOTE 2141 2MB./4MB/8MB	$125/$231/$438
PS/NOTE 2618 4MB/8MB/16MB	$200/$378/$836
THINKPAD 300 2MB/8MB	$106/$366
THINKPAD 350/350C 4MB/8MB/16MB	$200/$382/$836
THINKPAD 710T 4MB/8MB	$188/$360
THINKPAD 500 4MB/8MB	$228/$475
THINKPAD 700/720/750 4MB/8MB	$227/$430
PS/1 CONSULTANT 2MB/4MB/8MB	$94/$183/$371
PS/VALUEPOINT 4MB/8MB/16MB	$183/$356/$750
PS/2 90XP/95XP 2MB/4MB/8MB	$94/$183/$356
RS/6000 220-SERIES 4MB/8MB	$183/$356

NCR

286-IS/386SX-IS 2MB	$93
3345/3347/3445 8MB	$375
6435 2MB/4MB	$141/$239

NEC

POWERMATE 1MB/4MB/16MB	$49/$184/$750
ULTRALITE SL/20/20P 2MB	$106
ULTRALITE III/SL/25C 2MB/4MB/8MB	$106/$198/$363
VERSA 4MB/8MB/16MB/20MB	$207/$392/$956/$1044
SILENTWRITER-2 90/290 2MB	$144
SILENTWRITER-2 95/97/862P 2MB	$105

OKIDATA

OKILASER 400 2MB	$128
OKILASER 410/810 1MB/4MB	$101/$248
OKILASER 800/820 2MB/3MB/4MB	$138/186/234
OKILASER 830/840/850 2MB	$119

OLIVETTI

PG-108/208 1MB/2MB/4MB	$86/$128/$225

PACKARD-BELL

PACKMATE 966 4MB/16MB	$180/$695
PB-9600 2MB/4MB	$141/$239
PB-9615 2MB/3MB/4MB	$120/$169/$218

PANASONIC

CF-170 1MB	$60
CF-270/370 2MB/4MB	$120/$240
CF-380/480 2MB/4MB/6MB	$104/$209/$296
KX-P4410/4430 2MB/3MB/4MB	$133/$181/$230
KX-P4420/4450I/4451 2/3/4MB	$133/$181/$230
KX-P4450 1MB	$90
KX-P4455 2MB	$146

QMS

PS410 2MB/3MB/4MB	$149/$198/$246
PS815/815MR/825/825MR 2MB/4MB/6MB	$131/$229/$326

SEIKOSHA

OP-104 1MB	$68
OP-108 1MB/2MB	$55/$101

SHARP

PC-3100/3000 512K/1MB/2MB	$106/$131/$238
PC-6220/6240 1MB	$55
PC-6600/6641/6661 2MB	$91
PC-6700/6800 SERIES 2MB/4MB	$104/$204
PC-7700/7750/8150/8650/8850 4MB/16MB	$204/$825
PC-8041/8081 1MB	$63
PC-8501 COLORSTAR 2MB	$85
JX-9500/9700 1/1.5/2.5/4MB	$93/$108/$168/$263
JX-9500PS 1MB	$60
JX-9400/9600/9700E 1MB/2MB/4MB	$85/$129/$234

SANYO

MBC 17NB/18NB 2MB	$104

SRAM

512K/1MB/2MB	$106/$131/$238
1MB/2MB W/ ATTRIBUTE	$144/$249

STAR

LASERPRINTER/4 1MB/2MB	$104/$155

SUN MICROSYSTEMS

3/60, 3/80, 4/110 16MB	$820
SPARCSTATION CLASSIC LC/LX 8MB	$375
SPARCSTATION ELC 425/SLC 420 4MB	$188
SPARCSERVER/STATION/ENGINE 10 16MB	$750
SPARCSERVER/STATION 330 32MB	$1450
SPARCSERVER MP 630/670/690 64MB	$3400

TOSHIBA

T1000SE, T1000LE, T1000XE, T1800, T1850 T1850C, T2000, T2000SX, T2000SXe, T2200SX 2MB/4MB/8MB	$63/188/$394
T100X DYNAPAD 4MB/6MB/16MB	$448/$622/$CALL
T1200XE 2MB	$87
T1600 2MB	$128
T3100E 2MB	$106
T3100SX 2MB/4MB	$115/$193
T3200SX/SXC 2MB/4MB	$106/$196
T3300SL 4MB/6MB/16MB	$125/$188/$719
T4400/T6400 4MB/8MB/16MB	$181/$411$711
T1900/T1910/T1950/T4500/T4500C/ T4600/T4600C/T4700CS/T4700CT 4MB/8MB/16MB 3.3V	$228/$450/$938
T5100 2MB	$119
T5200/T5200C/T8500 2MB/8MB	$106/$365
PAGELASER6 2MB/4MB	$141/$239

TANDY

1500HD 1MB	$82
2810HD 2MB	$164
2820HD 2MB/6MB	$191/$547
3810 1MB	$82
3810HD 2MB	$164
3820SL/3830SL 2MB/6MB	$141/$435

TEC

LB-1305B 2MB/4MB	$141/$239
LB-1321C 1MB	$68
LB-1323D 1MB/2MB	$55/$101

TEXAS INSTRUMENTS

MICROLASER/PLUS 1MB	$60
TRAVELMATE LT/286 2MB	$93
TRAVELMATE TM2000 1MB	$50
TRAVELMATE TM3000/WinSLC 2MB	$91
TRAVELMATE TM4000 4MB/16MB	$206/$1688

UNISYS

AP9210 2MB/3.5MB	$135/$208

ZENITH

MASTERSPORT/386SX 2MB	$108
MASTERSPORT/386SL 2MB	$106
Z-LITE/320L 2MB	$113
Z-NOTE/386 2MB/8MB	$111/$369
Z-NOTE/486 4MB	$321

ZEOS

386SX (NOT THE PLUS) 2MB	$104
POCKET PC 512K/1MB/2MB	$94/$130/$234

WE ALSO OFFER MEMORY FOR ACER, ALR, ALTECH, ALTIMA, COMPUADD, DELL, DTK, GATEWAY, HIGHSCREEN, LIBREX, MITAC, MAGNAVOX, TWINHEAD, AND MUCH, MUCH MORE.

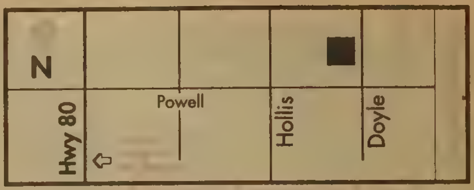
tote-a-lap

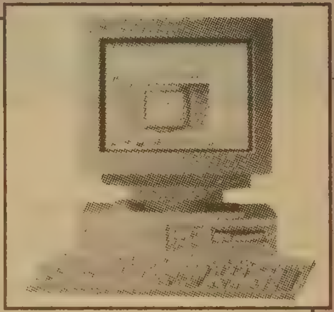
550 Pilgrim Drive, Ste. #F,
Foster City, CA 94404
Phone: (415)578-1901 | Fax: (415)578-1914
ORDERS ONLY: 1-800-952-7867

TERMS AND CONDITIONS: We guarantee 100% compatibility with your computer or printer, or you get your money back (less shipping/handling/insurance). We charge a 15% re-stocking fee on all refused shipments. Prices are subject to change without notice, and reflect all cash discounts. 5-YEAR WARRANTY ON ALL MEMORY PRODUCTS. We accept purchase orders from credit-worthy institutions Purchase prices at the time of sale are final , and no rebates are given after the sale. $35.00 fee for international orders. Visa/Mastercard accepted without any surcharge. You have NO RISK buying our CONTROL memory upgrades. *Always insist on* CONTROL

MICROTECH *International*

Serving you Since 1986





HP NetServer LM Series:

HP NetServer 4/33 LM
HP NetServer 4d/66 LM
HP NetServer 5/60 LM

To help you control your network, HP has designed its servers to be easy to manage and administer. Every NetServer LM includes HP NetServer Assistant server management software that helps you prevent problems before they occur.

Backed with HP's renowned reliability and support, the HP NetServer LM Series is the safe bet for your high-performance network needs.

HP Servers Deliver:

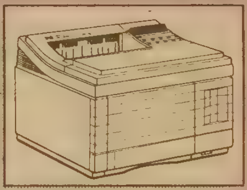
- Improved manageability with built-in features and software
- Continuous data availability through fault tolerant data storage
- High performance for demanding network tasks
- World-class HP support services and 3-year warranty.

HP Vectra VL2 PC Series

HP Quality in Value-Priced PCs

The HP Vectra VL2 PC Series is the perfect solution for anyone looking for a high-performance, full featured PC at an entry-level price.

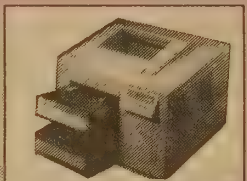
- Ultra-fast local bus video
- Intel 486 processing power
- Fast IDE local bus disk controller
- Processor upgrade to Intel Pentium™ OverDrive
- EPA Energy Star™ certified
- HP quality and reliability
- FREE 3-year limited warranty
- Plug-and-play capability



HP LaserJet 4/4M Printer

- 600 dpi print quality at a 300 dpi price
- Resolution Enhancement Technology and microfine toner for superior output quality
- Fast 8-ppm printing
- Outstanding language and platform flexibility
- Full network capabilities

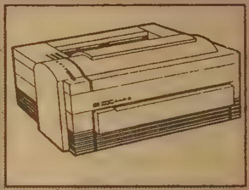
$1379
$1879



HP LaserJet 4si Printer

This 17 pages per minute, high-performance, 600dpi network printer offers the power & performance to meet users' expanding needs.
Add interfaces, memory, paper-handling at any time. With Jet Direct Card and Duplex option is designed for multiple network environments.

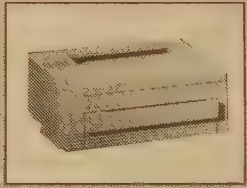
Special Bundle $3657



HP LaserJet 4L Printer

- 26 built-in scalable typefaces
- 300 dpi laser printing with HP resolution enhancement technology
- 1MB memory with memory enhancement technology

$639

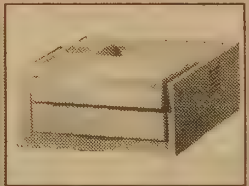


HP LaserJet 4ML Printer

The HP LaserJet 4L printer is everything you want in a laser printer. Complete. Simple to operate. And affordable.

$969

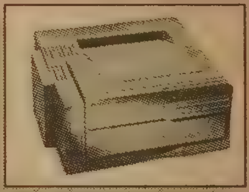
- Up to 4 pages per minute
- 300x300 dpi with further refinement by HP Resolution technology
- 26 Scalable typefaces



HP LaserJet 4MP Printer

Remarkable 600-dpi resolution in an affordable, feature-rich, 4-ppm PostScript printer designed for Macintosh and Windows users. Its powerful RISC processor is boosted by PostScript Level 2 software from Adobe, 80 scalable typefaces, and 6MB of memory standard.

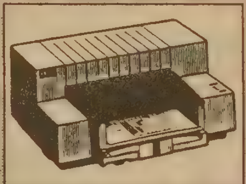
$1309



HP LaserJet 4P Printer

- 600 dpi with HP's Resolution Enhancement Technology and microfine toner produces the best 600-dpi output available
- 45 scalable typefaces
- Full range of expansion options.

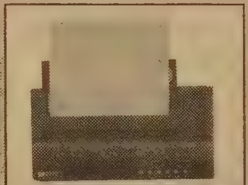
$959



HP InkJet Printers For PC DeskJet 520*/550C/560C*

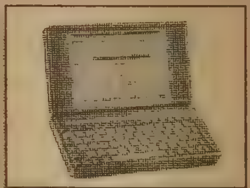
- 3 Year mfg. warranty
- Extremely quiet operation
- 300 dpi printing
- *300 x 600 dpi printing

$279/379/579



HP DeskJet 310 InkJet Printers

At last a full-featured portable printer with optional color printing.
Great print quality, print speed, versatile paper handling, and lots of fonts in a compact size. Wide range of options include rechargeable battery, low-profile interface cables make it perfect for users on the go.



HP Omnibook 425

- Less than 3 pounds
- 486SLC/e 25MHz
- 40MB Hard Drive
- Microsoft Windows, Word & Excel built into ROM
- Appointment book, phone book
- Laplink remote access
- Pop-up mouse

Automatically parks hard drive when dropped accidentally

100% FINANCING AVAILABLE OAC
PLEASE CALL STORE FOR DETAILS

Authorized Factory

TOSHIBA

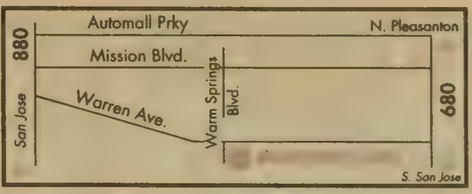
HEWLETT PACKARD

EMERYVILLE

5865 Doyle Street
Emeryville, CA 94608
TEL: (510) 658-1433
FAX: (510) 658-7339
HOURS: M-F 9-6 Closed Fri 1-2

FREMONT

47000 Warm Springs Blvd. #8
Fremont, CA 94539
TEL: (510) 226-8650
FAX: (510) 226-8652
HOURS: M-F 9-6 Sat 12-5 By Appointment



1200 dpi PostScript

Output from an HP4

LaserJet® 4 + WinJet 1200 =

- 1200 dpi, Camera-Ready, Output
- PostScript Language Compatability
- The Fastest Windows Printing
- 50 TrueType Fonts
- No More Font Downloading
- Revolutionary Host-Based Design

Now you can own them both for one low price! When you combine the new LaserJet 4 with LaserMaster's WinJet 1200 upgrade. You get camera-ready copy plus a host of other amazing features.

SPECIAL BUNDLE PRICING... $2049

Includes HP LaserJet 4 & WinJet 1200

Other LaserMaster Specials

WinJet 1200 Upgrade	$[illegible]
WinPrinter 800XL	$[illegible]
WinPrinter 800	$1079
WinJet 800 Upgrade	$[illegible]

LASERMASTER®
Authorized Dealer

APPLE® MACINTOSH® SPECIALS

Macintosh Quadra 605

Apple® Macintosh® Quadra®

Quadra® 605 4/80	**$899**
Quadra® 610 8/230	**1689**
Quadra® 650 8/230	**2195**
Quadra® 800 8/230	**2399**
Quadra® 840AV 8/230 w/CD	**3449**

Other Configurations please call

Apple® Macintosh® PowerBook®

PowerBook® 165 4/80	**$1599**
Duo 230 4/80	**1449**
Duo 270C 4/240	**2849**
PowerBook® 180C 4/80	**2349**
PowerBook® 180C 4/160 w/modem	**2795**

TWINHEAD 486DX2-66 ACTIVE COLOR NOTEBOOK

- Intel 486DX2-66MHz CPU
- Active Matrix Color Display
- 4MB RAM
- 200MB Hard Drive
- Built in track-ball
- MS DOS 6.0 & Windows 3.1

$3700
In Stock

Apple the Apple logo, Macintosh, Macintosh Quadra, PowerBook are registered tradmarks of Apple Computer.

NOTEBOOK SPECIALS

IBM Motherboard Specials

IBM SLC 25/50	$275
IBM SLC 33/66	$305
IBM SLC 25/50/75	$675

Call For All Other IBM Motherboards

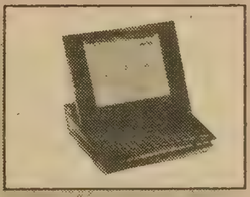
Texas Instruments TI 4000

Dual Scan Color Dx2/50/4/200

$3149

486 SLC 25MHz 4/80

$1410



Avanti Notebooks

486SX-25 Mono 4MB RAM

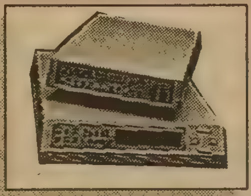
- 120MB Hard Drive
- Mono Display
- Plus much more!

$1449

486-25 Color

- 4MB RAM
- 120MB Hard Drive
- Color Display
- 96/24 BPS Fax Modem
- DOS 6.1 & Windows 3.1

$1949



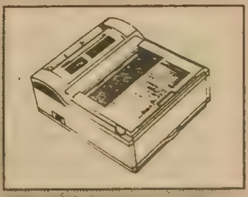
Modems

14/14 Int	$115
14/14 Ext	$135
PCMCIA 14/14	$279
PCMCIA 96/24	$169

Microtech 66MHz MULTIMEDIA SYSTEM IBM 486-66SLC

- 4MB RAM
- 340MB Hard Drive
- 1.2 & 1.44MB Floppy Drives
- SVGA Card W/ 1MB
- Parallel/ Serial Ports
- 101 Keyboard
- Mid-Size Power Case
- IBM DOS 6.1, Windows 3.1, & Mouse
- SONY Int. CD-ROM w/ 6 Titles
- 14" SVGA Monitor

$1599



OKIDATA®

600dpi laser printer from Okidata

OL 410E $629

400dpi laser printer

OL400E $475

ml 320	309	ml 590	429
ml 321	399	ml 591	569
ml 520	379	ml 395	929
ml 521	479	ml 595c	999
ml 380	219		

Service Center for

COMPAQ EPSON® OKIDATA®

Authorized Reseller

PRICES REFLECT A CASH DISCOUNT

All Prices are subject to change without notice.
Prices good through 4/4/94
All brands and product names are trademarks of their respective companies.

COMPUTERLAND OF SERRAMONTE WAREHOUSE OUTLET

We Match Or Beat Most Prices!

Bring In This Ad For These Prices!

APPLE® COMPUTERS

MACINTOSH® LCIII, 4/80	$811
MACINTOSH® LCIII, 4/160	$931
MACINTOSH® CENTRIS 660AV 8/500	$2222
MACINTOSH® QUADRA® 605, 4/80	$898
MACINTOSH® QUADRA® 605, 8/160	$1198
MACINTOSH® QUADRA® 610, 8/160	$1332
MACINTOSH® QUADRA® 610, 8/230	$1678
MACINTOSH® QUADRA® 610, 8/230/CD	$1999
MACINTOSH® QUADRA® 650, 8/230	$1985
MACINTOSH® QUADRA® 650, 8/230/CD	$2310
MACINTOSH® QUADRA® 650, 8/500/CD	$2865
MACINTOSH® QUADRA® 660AV, 8/230	$1737
MACINTOSH® QUADRA® 660AV/8/230/CD	$1999
MACINTOSH® QUADRA® 660AV, 8/500	CALL
MACINTOSH® QUADRA® 660AV/8/500/CD	$2550
MACINTOSH® QUADRA® 840AV/8/230	$2894
MACINTOSH® QUADRA® 840AV/8/230/CD	$3158
MACINTOSH® QUADRA® 840AV/500/CD	$3999
MACINTOSH® QUADRA® 840AV/1GB/CD	$4642

APPLE® POWERBOOK

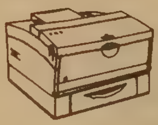
POWERBOOK® 145B/4/80	CALL
POWERBOOK® 165/4/80	CALL
POWERBOOK® 165/4/160	$1962
POWERBOOK® 180/4/80	$2094
POWERBOOK® 180/4/120	$2335
POWERBOOK® 180C/4/80 33mhz	$2416
POWERBOOK® 180C/4/160	$2657
POWERBOOK® 180C/4/160 w/modem	$2880
POWERBOOK® DUO 250 4/200	$2141
POWERBOOK® DUO 250 12/200 w/modem	$2629
POWERBOOK® DUO 270C 4/240	$2933
POWERBOOK® DUO 270C 12/240 w/modem	$3426

APPLE REBATES

Purchase an Apple LaserWriter® with a Macintosh Quadra 605 or 650 Computer and you may qualify for a $150 rebate, or purchase a Macintosh Quadra 605 with an Apple Stylewriter II and receive a $150 rebate

APPLE® PERIPHERALS

STYLEWRITER II	$278
PERSONAL LASERWRITER 320	$876
LASERWRITER SELECT 360	$1469
MACINTOSH® 16" RGB DISPLAY	$949
APPLE CD 300	$382
APPLE POWER CD	$389
APPLE MULTIMEDIA KIT	$595



HEWLETT PACKARD

OMNIBOOKS

OMNIBOOK 300/40MB HD	$1092
OMNIBOOK 300/10MB FLASH RAM	$1658
OMNIBOOK 425/40MB HD	$1608
OMNIBOOK 425/10MB FLASH RAM	$1877

PRINTERS

DESKWRITER C COLOR FOR MAC	$384
DESKJET 500C COLOR FOR PC	$384
DESKJET 550C COLOR INKJET	$472
DESKWRITER 550C COLOR 2 PEN	$472
LASERJET 4L	$659
LASERJET 4ML POSTSCRIPT	$995
LASERJET 4P	$976
LASERJET 4MP	$1359
LASERJET 4/8PPM/600DPI	$1416
LASERJET 4M/8PPM/600DPI	$1944
LASERJET 4 SI/17PPM/600DPI	LOW PRICE!
DESKJET 1200C	$1442
DESKJET 1200C/PS POSTSCRIPT	$2155

SCANNERS

SCANJET IICX COLOR FOR PC	$949
SCANJET IICX COLOR FOR MAC	$949

COMPAQ

CONCERTO 4/25 MODEL 120	CALL
CONCERTO 4/25 MODEL 250	$2569
CONCERTO 4/33 MODEL 250	CALL
LTE LITE 4/25C/120MB	IN STOCK
LTE LITE 4/33C/120MB	IN STOCK

TOSHIBA

T1910/MONO/4MB/120MB HD	$1533
T1910CS/COLOR/4MB/120MB HD	$2146
T1910CS/COLOR/4MB/200MB HD	$2365
T1950/486 DX2/40/4MB/120MB HD	$1927
T1950/486 DX2/40/4MB/200MB HD	$2146
T1950CS/COLOR/4MB/120MB HD	$2529
T1950CS/COLOR/4MB/200MB HD	$2759
T1950CT/COLOR/4MB/120MB HD	CALL
T1950CT/COLOR/4MB/200MB HD	$3109
T1950CT/COLOR/4MB/320MB HD	$3399

CLEARANCE ITEMS

HP LASERJET IIP PLUS W/2.5MB	$499
RADIUS COLOR PIVOT DISPLAY	$450
APPLE NEWTON PROFESSIONAL	$625
MACINTOSH® CENTRIS 660AV 8/500	$2222
SUPERMAC SUPERMATCH 21" MONITOR	$2045
COMPAQ CONCERTO 4/25 MODEL 250	$2569
COMPAQ PORTABLE 486C, 200MB HD	$2000

COMPUTERLAND OF SERRAMONTE WAREHOUSE OUTLET

OPEN Mon.–Fri. 9a.m.–6p.m.
Saturday 10a.m.–5p.m.

409 So. Spruce Avenue
South San Francisco, CA 94080

Call Now! While Available!
(415)•615•9020

- *Not responsible for typographical errors*
- *Prices subject to change without notice*
- *Previous ad prices void*
- *Prices subject to stock on hand*

Fax: (415)•615•0844

Apple, the Apple logo, Quadra, PowerBook, LaserWriter, StyleWriter, LocalTalk, and Macintosh are registered trademarks of Apple Computer Inc. AppleCD and Macintosh Centris are trademarks of Apple Computer Inc.

PREVIEW

CFP'94

FOURTH CONFERENCE ON COMPUTERS, FREEDOM, AND PRIVACY

CHICAGO, MARCH 23–26, 1994

"CYBERSPACE SUPERHIGHWAYS: ACCESS, ETHICS, AND CONTROL"

Cyberspace, Information Superhighway, National Information Infrastructure, Open Platforms, Computer and Communications Revolution, Electronic Networks, Digital Databases, and Information Society are words and phrases common to the rhetoric of our modern era. The relationships between and among individuals, society, nations, government entities, and business organizations are in constant flux as new stresses and alliances change the old "rules of the game."

Today's challenges are to define what is the "game," who owns the "franchises," who can play, what are the rules, and who calls the shots. Information and communications technology raise new issues for freedom and privacy in this new era. Such questions are on the agenda as the participants in CFP'94 consider the alternatives and seek some solutions. Come, join in the dialogue that will help to shape the world's future!

For information:

Computers, Freedom & Privacy '94
The John Marshall Law School
315 South Plymouth Court
Chicago, Illinois 60604
email = cfp94@jmls.edu
voice = 312/987-1419

Wednesday, March 23, 1994

Pre-Conference Tutorials

9 am–12 noon

☛ **Cyberspace Law for Non-Lawyers**
Mike Godwin, Online Counsel, EFF

☛ **Rules of the Road for Network Travelers** (CLE Credit Approved)
Lance Rose, attorney and author of Syslaw

☛ **Get Mad, Get Motivated, Get Moving!**
Robert Ellis Smith, Privacy Journal

☛ **Exploring Internet: A Guided Tour**
Mark Graham, Pandora Systems

☛ **Using the Freedom of Information Act**
David Sobel, counsel, Computer Professional for Social Responsibility

2–5 pm

☛ **Cryptography: What, and How?**
Mark Hellmann, Pattishall, McAuliffe et al., Chicago

☛ **Electronic Detectives: Critical Issues for Public and Private Investigators**
Michael Moran, CCO; Michael Robertson, CFE

☛ **Hi-Tech Intellectual Property Law Primer** (CLE Credit Approved)
Raymond Nimmer, University of Texas Law School
Leslie A. Bertagnolli, Baker & McKenzie, Chicago

☛ **Transactional Data Analyses: Making FOI Access Useful**
David Burnham, former New York Times *investigative reporter;*
Susan Long, codirector, TRAC, SUNY-Syracuse

☛ **Election Fraud and Modern Technology**
Russel L. Brand, Reasoning Systems

Thursday, March 24, 1994

☛ **8:30 am: CFP'94 Official Opening**
Welcome to the Conference: George B. Trubow, general chair
Welcome to Chicago: Hon. Richard M. Daley, Mayor (Invited)

☛ **9 am: Keynote Address: Mr. John Podesta, assistant to the President, Washington, DC**

☛ **10:30 am: The Information Superhighway: Politics and the Public Internet**
Chair: Jerry Berman, Electronic Frontier Foundation

☛ **12 noon: Lunch**
Speaker: US Senator Paul Simon (Invited)

☛ **1:30 pm: Is It Time for a US Data Protection Agency?**
Chair: Priscilla M. Regan, George Mason University

☛ **3 pm: "Owning and Operating the NII: Who, How, When?"**
Chair: Marc Rotenberg, Computer Professionals for Social Responsibility

☛ **4:30 pm: Data Encryption: Who Holds the Keys?**
Moderator: Willis Ware, Rand Corporation

Friday, March 25, 1994

☛ **8:30 am: Keynote: David Flaherty, data protection commissioner, Victoria, British Columbia**

☛ **9:15 am: Health Information Policy**
Chair: Robert R. Belair, Mullenholz & Brimsek, Washington, DC

☛ **10:45 am: Can Market Mechanisms Protect Consumer Privacy?**
Chair: Dr. Alan F. Westin, Columbia University

☛ **Noon: Lunch**
Speaker: Philip Zimmermann, author, PGP

☛ **1:30 pm: Creating an Ethical Community in Cyberspace**
Chair: Prof. James Thomas, Northern Illinois University

☛ **3:00 pm: Standards for Certifying Computer Professionals**
Chair: Donald Gotterbarn, East Tennessee State University

☛ **4:30 pm: Hackers and Crackers: Using and Abusing the Networks**

Saturday, March 26, 1994

☛ **9:00 am: The Role of Libraries on the Information Superhighway**
Moderator: Tamara J. Miller, president, Library and Information Technology Association

☛ **10:30 am: International Governance of Cyberspace: New Wine in Old Bottles—Or Is It Time For New Bottles?**
Chair: Ronald L. Plesser, Piper and Marbury

☛ **Noon: Lunch**
Speaker: Simon Davies, director general, Privacy International

☛ **1:30 pm: The Electronic Republic: Delivery of Government Services over the Information Superhighway**
Chair: Dennis McKenna, publisher, Government Technology

☛ **3 pm: Education and NREN, K-12**
Chair: Steven Hodas, NASA NREN Project

☛ **4:15 pm: Guarding the Digital Persona**
Chair: Roger Clarke, Australian National University

PREVIEW

The Los Angeles Computer Fair

MARCH 18, 19 & 20, 1994

POMONA FAIRPLEX CONFERENCE & EXPOSITION CENTER

PRESENTED BY NATIONAL PRODUCTIONS, INC.
16175 MONTEREY RD.
MORGAN HILL, CA 95037
1-800-800-5600
(408)778-5200
FAX (408)779-1374

This year's L.A. Computer Fair will see leaders like Apple, Borland, Brøderbund, Canon, Compton's NewMedia, CompUSA, Egghead, IBM, Microsoft, and others showcasing their hottest 1994 products and services.

In addition to seeing the latest products and multimedia effects, and getting high-quality information from a host of speakers and panelists, attendees will be contributing to LA's recovery from recent natural disasters—the event includes several charity functions.

PARTIAL LIST OF EXHIBITORS

Apple Computer
Borland
Brøderbund
Compton's NewMedia
Egghead
IBM
Logitech
Lotus
Microsoft
Skytel
Traveling Software
WordPerfect

SELECTED PANELS AND SEMINARS

The BBS as a Profit Center
Energy Star Computers: Making Cents for Your Organization
Personal Video Production
OS/2 Overview
CD Authoring
Common Misconceptions of Buying Your First Computer
PCMCIA and the Consumer
Upgrading to Multimedia
The Future of Pen Computing and How You Can Increase Your Business Using the Latest Technology
An Overview of Educational CD-ROM Titles
Launching Your Home Business
WordPerfect Overview
Using the Internet
Almost All About Software
Software for Users on the Go
PCs Today and Tomorrow: From Basic Productivity to Cruising the Digital Highway
Photo-Morphing
The Shrinking PC—Laptops and SubNotebook Trends

KEYNOTE SPEAKERS

Jerry Pournelle—Senior Contributing Editor, *BYTE* Magazine
Larry Magid—Syndicated Columnist, *L.A. Times* *Washington Post*
Dave Horowitz—Syndicated Columnist

SPEAKERS

Jeffrey Armstrong, Saint $ilicon
Al Shugard, President & CEO, Shugard Industries
Mark Pontius, Director of Marketing, Cardina Technologies
Larry Van Cantfort, Compton's NewMedia
Linda Latham, Program Manager, Environmenta Protection Agency, Energy Star Program
Jim Glover, IBM, PC Products Division
Michael Goldstein, EIC, *PC Laptop* Magazine
Betty Sheets, PowerLink
Mark Eppley, Chairman & CEO, Traveling Software
John Crowder, WordPerfect
Jud Alford, NewTek
David Jung, ARCO Products
Wayne Yacco, Contributing Editor, *MicroTimes, PC Laptop, PEN Computing*
Carey C. Harwin, President, InfoLink
Kenneth Taira & James Lummel—Topic: Using the Internet
Steve Bass, President, Pasadena IBM Users Group (PIBMUG)
Russell Glitman, Executive Editor, *PC World*
Mark Brownstein, Former LA Bureau Chief, *InfoWorld*
Jim Brunjes, Educator
Dan Day, Director, Mt. Sierra College, Novell training site
J.C. Coldren, Instructor, New Horizons Computer Training Center
Scott Page, 7th Level
Tony Hatch, Walt Disney
David Mastrandrea, LA VAUNAGE Calvisson
Arnie Lapinig, CypherTech
Dr. Raymond J. Bambery, JPL
Michael H. Campbell, President, Campbell Software

SACRAMENTO
HIGHLANDS
CARMICHAEL
INSET MAP
RIO VISTA
STOCKTON
RICHMOND
PLEASANT HILL
BERKELEY
WALNUT CREEK
CONTRA
EL CERRITO
RECREATION AREA
SAN FRANCISCO
ALAMEDA
SAN LEANDRO
101
MOUNTAIN VIEW
SUNNYVALE
SANTA CLARA
SAN JOSE

WE ARE ON LOCATION!

HD Computer Offers 4 Locations to Serve You!

We Guarantee Your Satisfaction!

HD COMPUTER

The Best Products and Quality

HD COMPUTERS, a leading system integration house for over 10 years, will be opening their 4th Bay Area business on December 1st. The Grand Opening will be held at their new San Francisco location on Washington street.

At Your Service

HD COMPUTERS specializes in custom configuration and implementation of professional computer systems for business in the greater San Francisco Bay area. Providing technical expertise in both hardware and software applications, HD Computers' highly experienced staff of engineers and technicians will support your systems on-site or through a custom program to fit your needs.

The Support You're Looking for

Coupled with a " hotline" telephone technical support service, all **HD COMPUTERS** configurations come with a comprehensive 1 year warranty, including a 1 year On-site support program.

Call and Find out More About HD

HD

HD Computer, Your Smart Solutions Store

Sales Hours: 9:00AM - 6:30PM Weekdays, 10AM - 6PM Saturdays (Pacific Time)

Sunnyvale
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

San Francisco
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

El Cerrito
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

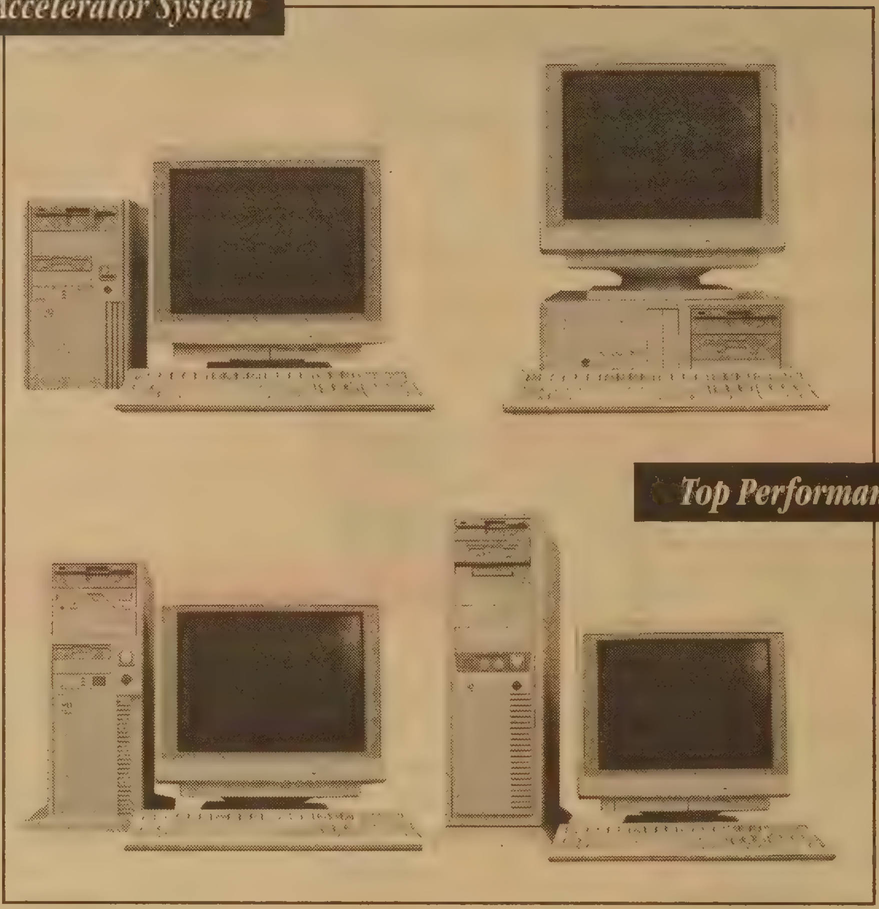
Sacramento
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

GENERAL/BEST BUY SYSTEM

ISA-486 Windows Accelerator System

- *Intel 486 Processor*
- *128KB Cache (Max. 256KB)*
- *4MB RAM (Max. 32MB)*
- *1.2MB FDD*
- *1.44MB FDD*
- *130MB IDE HDD*
- *2H/2F IDE Disk Controller*
- *2S, 1P, 1G Ports*
- *16-bit Windows Accelerator Card/1MB*
- *Mini-Tower Case w/ 200W Power Supply*
- *14" Non-interlaced Monitor, .28 dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

SX-25	***$1035***
SX-33	***$1085***
DX-33	***$1225***
DX-50	***$1325***
DX2-66	***$1425***



Top Performance EISA/VESA System

- *Intel DX-486 Processor*
- *ZIF Socket OverDrive Ready*
- *8KB Internal Cache*
- *256KB External Cache*
- *4MB RAM (Max. 128MB)*
- *1.2MB FDD*
- *1.44MB FDD*
- *32-bit EISA SCSI II Controller*
- *2 16550 UART High Speed Serial Port*
- *1 Parallel Port*
- *345MB SCSI HDD*
- *Cardex ET-4000 W32 VL-B Graphic Accelerator Card/1MB*
- *Mid Tower Case w/ 250W Power Supply*
- *14" ViewSonic 6E Non-interlaced Monitor*
- *101-key Keytronic Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

DX-33	***$1995***
DX-50	***$2110***
DX2-66	***$2195***

intel inside®

HD 386 Systems Below $900

- *4MB RAM (Max. 32MB)*
- *1.44MB FDD*
- *130MB IDE HDD*
- *2H/2F IDE Disk Controller*
- *2S, 1P, 1G Ports*
- *16-bit SVGA Card/1MB*
- *Mini Tower Case w/ 200W Power Supply*
- *14" SVGA Monitor, .39 dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*

386SX-33	***$825***
386DX-33/64K Cache	***$855***
386DX-40/64K Cache	***$855***

With Purchase of New System only

M.S. DOS 6.2	***$45***
M.S. Windows 3.11	***$48***
M.S. Windows for Workgroups ADD on 3.11	***$58***

Free Software Option:

- *PFS: Windows works*
- *PFS: Publisher*
- *PFS: Prospect*
- *PFS: First Choice*
- *CD Title: Toolworks Encyclopedia*

HD Computer continues to offer leading, high-performance system configurations for any application. Custom configuration. Lifetime technical support. 30-day money back guarantee. No other Bay Area system integration house can boast this type of service and support.

New EISA/VESA systems, 386 systems and Windows Accelerator systems are only a few of the many system configurations now offered by HD Computer. Whether for business or at home, HD will custom the computer systems to your specifications.

HD

HD COMPUTER

SALES HOURS: 9:00AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/FAX: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • *MAJOR CREDIT CARDS ACCEPTED* • *NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS* • *QUALITY PO'S ACCEPTED APO'S WELCOME* • *SHIPPING CHARGE NOT REFUNDABLE* • *RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE* • *PRICE DOES NOT INCLUDE SHIPPING* • *PRICE AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE* • *ALLOW 14 DAYS TO PROCESS REFUND.* • *NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

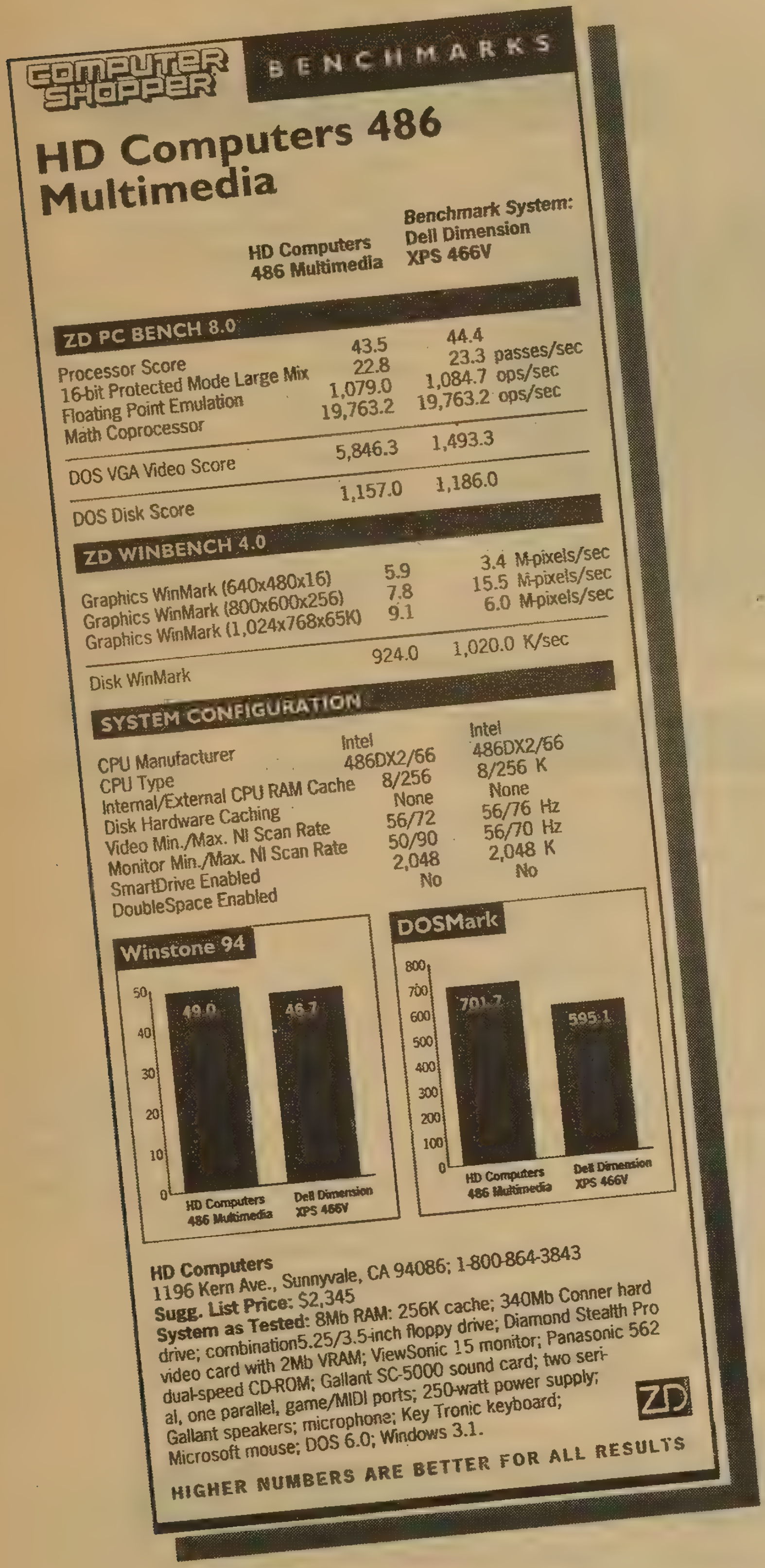
VISA MasterCard DISCOVER AMERICAN EXPRESS

HD COMPUTER 486 Multimedia

"A Multimedia PC at a Nice Price

An attractive assemblage of good-quality multimedia componenets for user who need watch their budgets."

—— March 1994 COMPUTER SHOPPER



COMPUTER SHOPPER BENCHMARKS

HD Computers 486 Multimedia

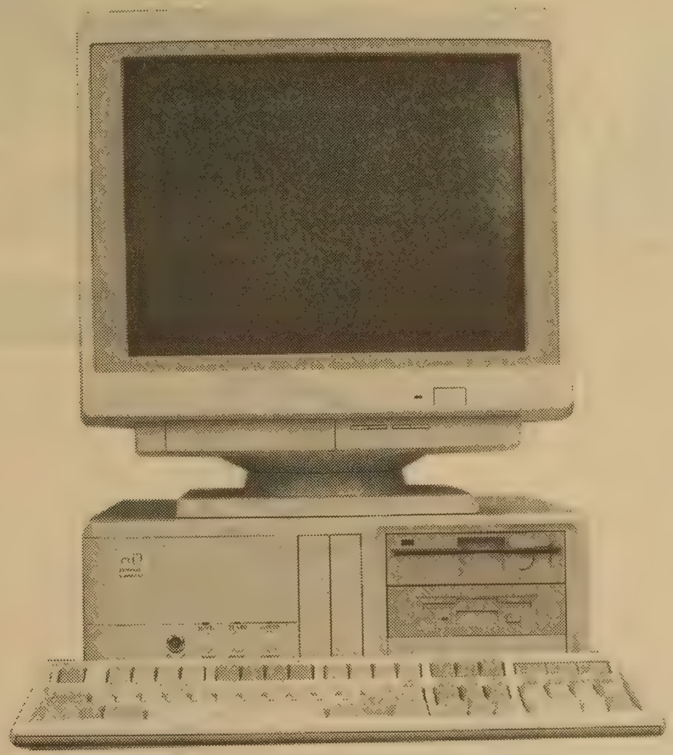
	HD Computers 486 Multimedia	Benchmark System: Dell Dimension XPS 466V
ZD PC BENCH 8.0		
Processor Score	43.5	44.4
16-bit Protected Mode Large Mix	22.8	23.3 passes/sec
Floating Point Emulation	1,079.0	1,084.7 ops/sec
Math Coprocessor	19,763.2	19,763.2 ops/sec
DOS VGA Video Score	5,846.3	1,493.3
DOS Disk Score	1,157.0	1,186.0
ZD WINBENCH 4.0		
Graphics WinMark (640x480x16)	5.9	3.4 M-pixels/sec
Graphics WinMark (800x600x256)	7.8	15.5 M-pixels/sec
Graphics WinMark (1,024x768x65K)	9.1	6.0 M-pixels/sec
Disk WinMark	924.0	1,020.0 K/sec
SYSTEM CONFIGURATION		
CPU Manufacturer	Intel	Intel
CPU Type	486DX2/66	486DX2/66
Internal/External CPU RAM Cache	8/256	8/256 K
Disk Hardware Caching	None	None
Video Min./Max. NI Scan Rate	56/72	56/76 Hz
Monitor Min./Max. NI Scan Rate	50/90	56/70 Hz
SmartDrive Enabled	2,048	2,048 K
DoubleSpace Enabled	No	No

HD Computers
1196 Kern Ave., Sunnyvale, CA 94086; 1-800-864-3843
Sugg. List Price: $2,345
System as Tested: 8Mb RAM: 256K cache; 340Mb Conner hard drive; combination5.25/3.5-inch floppy drive; Diamond Stealth Pro video card with 2Mb VRAM; ViewSonic 15 monitor; Panasonic 562 dual-speed CD-ROM; Gallant SC-5000 sound card; two serial, one parallel, game/MIDI ports; 250-watt power supply; Gallant speakers; microphone; Key Tronic keyboard; Microsoft mouse; DOS 6.0; Windows 3.1.

ZD

HIGHER NUMBERS ARE BETTER FOR ALL RESULTS

"Built around a 486DX2/66 VL-Bus motherboard, the HD 486 Multimedia's price and performance make it a more-than acceptable starter system for most applications."



The HD 486 Multimedia desktop offers a good starter system at a reasonable cost.

HD

HD COMPUTER

SALES HOURS: 9:00AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • *MAJOR CREDIT CARDS ACCEPTED* • *NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS* • *QUALITY PO'S ACCEPTED APO'S WELCOME* • *SHIPPING CHARGE NOT REFUNDABLE* • *RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE* • *PRICE DOES NOT INCLUDE SHIPPING* • *PRICE AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE* • *ALLOW 14 DAYS TO PROCESS REFUND.* • *NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

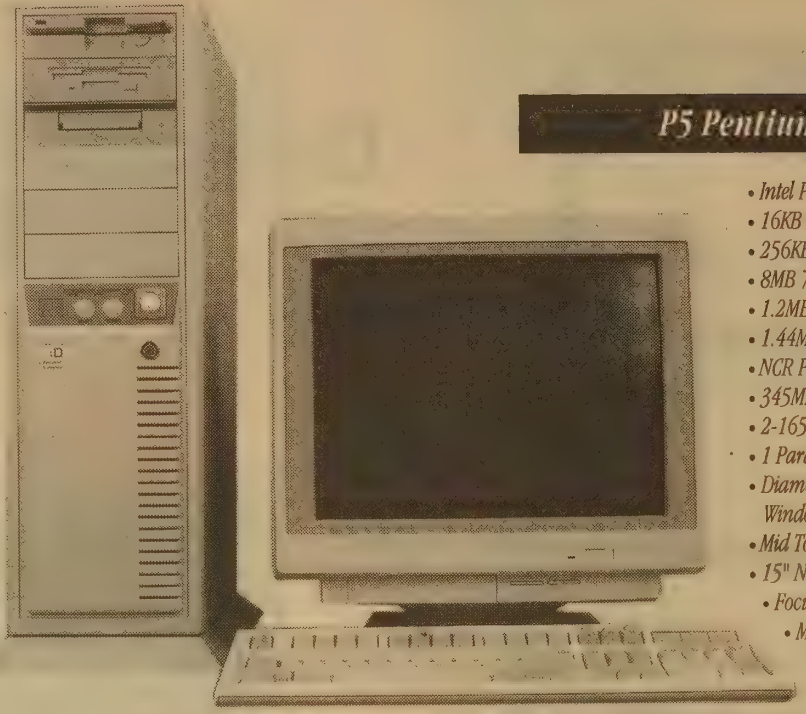
VISA MasterCard DISCOVER AMERICAN EXPRESS

PENTIUM/PCI LOCAL BUS SYSTEM

Intel 486 PCI Local Bus System

- *Intel DX-486 Processor*
- *ZIF Socket for Upgrade to Pentium OverDrive*
- *8KB Internal Cache*
- *256KB External Cache (max. 512KB)*
- *8MB 72-pin RAM (max. 128KB)*
- *Intel Saturn PCI Chipset*
- *Built-in NCR 32-bit PCI SCSI Controller*
- *2 Serial Ports (Built-in)*
- *1 Parallel Port (Built-in)*
- *1.44MB FDD*
- *245MB SCSI HDD*
- *Diamond Stealth PCI Windows Accelarator card/1MB (24-bit True Color, 1280x1024 display)*
- *Mid Tower Case w/ 250W Power Supply*
- *15" Non-interlaced Flat Screen Monitor, .28 dpi*
- *101-key Keytronic Keyboard*
- *Microsoft Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

DX-33	***$1965***
DX-50	***$2080***
DX2-66	***$2155***



P5 Pentium PCI System

- *Intel Pentium Processor*
- *16KB Internal Cache*
- *256KB External Cache (Max 512KB)*
- *8MB 72-pin RAM (Max 192MB)*
- *1.2MB FDD*
- *1.44MB FDD*
- *NCR PCI SCSI II Controller (Full SCSI II Compatibility)*
- *345MB SCSI HDD*
- *2-16550 UART High Speed Serial Port*
- *1 Parallel Port*
- *Diamond Stealth PCI Windows Accelerator/1MB*
- *Mid Tower Case w/250W Power Supply*
- *15" Non-interlaced Flat Screen Monitor, .28 dpi*
- *Focus 9000 129-key Programmable Keyboard*
- *Microsoft Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

60MHz	***$3150***
66MHz	***$3265***

P5 Pentium Local Bus System

- *Intel Pentium Processor*
- *16KB Internal Cache*
- *256KB External Cache (Max 512 KB)*
- *8MB 72-pin RAM (Max 128MB)*
- *1.2MB FDD*
- *1.44MB FDD*
- *32-bit VL-B IDE Disk Controller*
- *424MB IDE HDD*
- *2-16550 UART High Speed Serial Port*
- *1 Parallel Port*
- *Cardex ET-4000 W32i VL-B Video Card/2MB (Winmark 41M, 1280x1024x256 Colors)*
- *Mid Tower case w/250w power supply*
- *15" Non-interlaced Flat Screen Monitor, .28 dpi*
- *101-key Keytronic Keyboard*
- *Microsoft Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

60MHz	***$2995***
66MHz	***$3110***

Unleash the power of Pentium™. Whether your computing needs involve large data files or memory intensive applications, you'll want to take advantage of the high-speed Pentium architecture systems now available from HD Computer. With the new HD Pentium systems, you no longer have to wait for your computer to catch up with the a demanding software application.

And, you don't have to give up power or performance with the new PCI bus system from HD Computer. Take advantage of the high performance PCI Bus architecture for your computing needs. Unparalled speed through your new system allows for increased data access and data back-up.

With Purchase of New System only

M.S. DOS 6.2	***$45***
M.S. Windows 3.11	***$48***
M.S. Windows for Workgroups ADD on 3.11	***$58***

Free Software Option:

- *PFS: Windows works*
- *PFS: Publisher*
- *PFS: Prospect*
- *PFS: First Choice*
- *CD Title: Toolworks Encyclopedia*

HD COMPUTER

Sales Hours: 9:00AM - 6:30PM Weekdays, 10AM - 6PM Saturdays (Pacific Time)

Sunnyvale
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

San Francisco
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

El Cerrito
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

Sacramento
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

Terms and conditions: *• Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted APO's welcome • Shipping charge not refundable • Return shippments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price and configurations are subject to change without notice • Allow 14 days to process refund. • Not Responsible for typographical errors.*

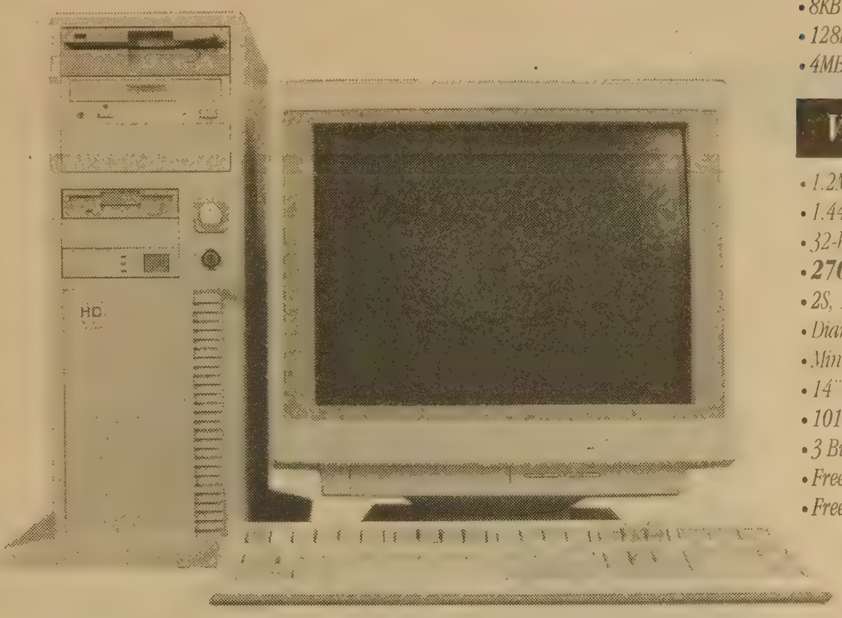
VISA MasterCard DISCOVER AMERICAN EXPRESS

VESA LOCAL BUS/GREEN PC

VESA Local Bus Best Buy

- *Intel 486 Processor*
- *128KB Cache*
- *4MB RAM*
- *1.2MB FDD*
- *1.44MB FDD*
- ***270MB IDE HDD***
- *2H/2F IDE Controller*
- *2S, 1P, 1G Ports*
- *32-bit VL-B Graphic Accelerator Card/1MB*
- *Mini Tower Case w/ 200W Power Supply*
- *14" Non-Interlaced Monitor, .28 dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

SX-33	**$1115**
DX-33	**$1265**
DX2-50	**$1365**
DX2-66	**$1465**



Made in USA Main Board

- *Intel DX486 Processor*
- *ZIF Socket for upgrade to Pentium OverDrive*
- *8KB Internal Cache*
- *128KB External Cache*
- *4MB RAM*

VESA Local Bus System

- *1.2MB FDD*
- *1.44MB FDD*
- *32-bit VL-B IDE Disk Controller*
- ***270MB IDE HDD***
- *2S, 1P, 1G Ports*
- *Diamond Stealth 24 VL-B Video Card/1MB*
- *Mini Tower Case w/ 200W Power Supply*
- *14" Non interlaced Monitor, .28 dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

DX-33	**$1415**
DX2-50	**$1515**
DX2-66	**$1615**

Green VESA Local Bus System

- *Energy-Efficient System*
- *Saves up to 70% on Energy Consumption*
- *VESA Standard Local Bus*
- *ZIF Socket OverDrive Ready*
- *256K Cache*
- *4MB RAM*
- *1.2MB FDD*
- *1.44MB FDD*
- *32-bit VL-B IDE Disk Controller*
- ***270MB IDE HDD***
- *2S, 1P, 1G Ports*
- *32-bit VL-B Graphic Accelerator Card/1MB*
- *Mini Tower Case w/ 200W Supply*
- *14" Non-interlaced monitor, .28dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option*

SX-33	**$1335**
DX-33	**$1445**
DX2-50	**$1545**
DX2-66	**$1645**

The "Green" PC is taking the market by storm. A new initiative by the Environmental Protection Agency is gaining popularity with the introduction of energy-efficient computer products.

HD Computer offers one of the leading "green" VESA local bus systems available today. Energy-savings add up to nearly 70% of computer's normal power consumption. An energy-efficient computer systems means time and money savings for you. When buying your next computer system, consider the HD computer energy-savings plan!

Take advantage of the high-performance of VESA Bus architecture. When you require a high-end accelerator for memory-intensive applications like CAD/CAM or large data file management, HD Computer offers a VESA local Bus system to fit your needs.

With Purchase of New System only

M.S. DOS 6.2	***$45***
M.S. Windows 3.11	***$48***
M.S. Windows for Workgroups ADD on 3.11	***$58***

Free Software Option:

- *PFS: Windows works*
- *PFS: Publisher*
- *PFS: Prospect*
- *PFS: First Choice*
- *CD Title: Toolworks Encyclopedia*

HD COMPUTER

Sales Hours: 9:00AM - 6:30PM Weekdays, 10AM - 6PM Saturdays (Pacific Time)

SUNNYVALE
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

EL CERRITO
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

SACRAMENTO
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

Terms and conditions: *• Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted APO's welcome • Shipping charge not refundable • Return shipments must be insured, prepaid and bear an RMA# on the shipping label. • Price does not include shipping • Price and configurations are subject to change without notice • Allow 14 days to process refund • Not Responsible for typographical errors.*

MULTIMEDIA
9 CD-ROM Package Options for You to Convert Your Computer Into The Multimedia World!!

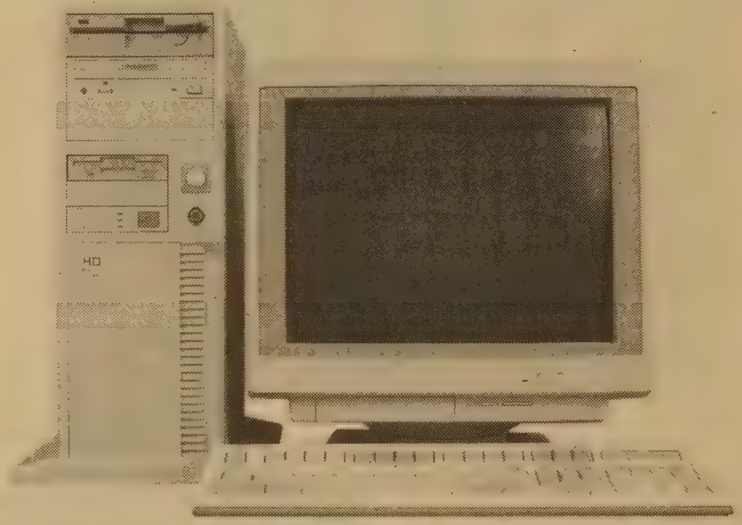
Free installation with Purchase of New System

- *NEC triple speed internal CD ROM*
- *Pro Audio studio 16*
- *Microsoft works MPC*
- *Microsoft bookshelf MPC*
- *Compton's encyclopedia*

$796

- *Toshiba double speed internal CD ROM*
- *Pro Audio spectrum 16*
- *Microsoft works MPC*
- *Microsoft bookshelf MPC*
- *CD game package II*

$569



- *Panasonic double speed internal CD ROM*
- *Gallant 5000 16 bit sterio sound card*
- *Speaker and Microphone*
- *Microsoft works MPC*
- *Microsoft bookshelf MPC*
- *Toolworks Encyclopedia*
- *King's quest*

$425

- *Internal Single Speed CD ROM*
- *Gallant 4000 sound card/Interface*
- *Speaker and Microphone*
- *Toolworks Encyclopedia*
- *U.S. Atlas*
- *Playing with Language English*
- *CD game package II*

$345

- *Sony Double Speed CD-ROM*
- *16 Bit Mediavision Spectrum Sound Card*
- *Stereo Speaker*
- *New Grolier Encyclopedia*
- *Toolowrks CD Deluxe Pack*

$395

Discovery CD
- *Entry Level Multimedia Upgrade Kit.*
- *Sound Blaster card, new dual speed drive Photo-CD compatible*
- *Lemmings, Animals!, Software Toolworks' Encyclopedia Sound Blaster CT-38 Shielded Stereo Speakers.*

$425

Creative Lab

Edutainment CD
- *Mid-Level Multimedia Upgrade Kit.*
- *Sound Blaster 16, new dual speed drive, Photo-CD compatible*
- *Sound Blaster CT-38 Shielded speakers, Microphone, Software Toolworks' Encyclopedia, Animals, Secret Weapons of the Luftwaffe, Monkey Island, Loom, Sherlock Holmes Vol. II, Carmen San Diego and Grandma and me.*

$469

Mitac

Mitac Deluxe Multimedia Kit
- *Mitsumi Double-Speed CD-ROM Drive*
- *16-Bit Sound card*
- *A Pair of Amplified Stereo Speakers with power boosters.*
- *Five CD ROM software titles*

$375

Orchestrator

- *16 Bit CD Quality and Stereo Surround Sound*
- *Power Packed Sound and MIDI Software Package for DOS and Windows*
- *Sony Double Speed CD ROM*
- *6 CD Titles Including:*
  1. ***Asymetrix's** undiluted, full blown Multimedia Presentation Software Double, **Compel** and **MediaBlitz**!*
  2. *Together with Compton's Encyclopedia, Mayo Clinic and Two Exciting Pieces of 3-D Animated Game Software for all Ages.*

$399

Multimedia has definitely landed! If you're shopping for fully featured, high-performance Multimedia Systems... you've come to the right place. Capture new levels of creativity, exciting presentations, not to mention education, entertainment and video, at home or in the office.

The powerful, new Intel 486 PCI Multimedia system from HD Computer is available in four different configurations. HD's new Multimedia system offers the ultimate in performance and capability with an ability to expand. Upgradeable to Pentium Overdrive, this ready-to-go system comes packed with an impressive list of functions and features.

HD Computer brings Multimedia to your fingertips.

HD COMPUTER

SALES HOURS: 9:00AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/FAX: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • *MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS • QUALITY PO'S ACCEPTED APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE • PRICE DOES NOT INCLUDE SHIPPING • PRICE AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE • ALLOW 14 DAYS TO PROCESS REFUND. • NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

MULTIMEDIA

We Offer Variety of Choice Multimedia System for You to get into The Multimedia World!

CD-ROM Drives

TOSHIBA/XM3401B
- *SCSI CD-ROM, 200ms, 330KB/sec*
- *Multi-Spin/Multi-Speed*
- *256K Cache Buffer*
- *Kodak Photo CD*
- *Caddy included*

Internal	***$345***
External	***$445***

PANASONIC/CR562 CD ROM & Card
- *Includes Audio Card & Controller*
- *320ms/300KB/sec*
- *64K Cache*
- *Double Speed* ***$195***

PANASONIC/CR523 CD ROM & Card
- *Includes Audio Card & cables*
- *380ms*
- *64K Cache* ***$145***

SONY/New Multi Speed 300KB/Sec
- *Controller Card*
- *Cables and Software* ***$199***

SONY/561 SCSI CD ROM
- *Double Speed*
- *285 ms/300kb/Sec*
- *256K Cache* ***$365***

NEC/New Triple Speed:
3Xi
- *450Kb/Sec/190ms*

Internal ***$495***

3Xe
- *450Kb/Sec/190ms*

External ***$615***

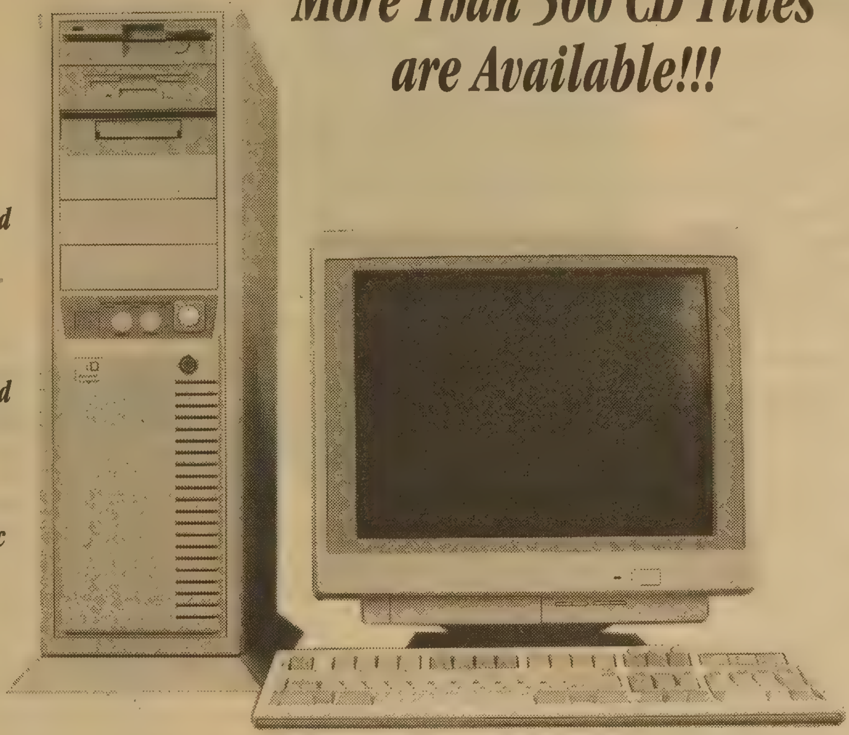
TEAC/CD-50
- *SCSI CD ROM* ***$275***

TEXEL ***$275***
- *3028 SCSI CD ROM 240ms Multi-Spin Caddy & Manual*
- *DM-5028 External w/Caddy* ***$365***

TV Cards

Sigma Reel Magic MPEG Board	***$405***
TVator Pro, IBM PC to TV Convertor	***$249***
TVator Pro, Megavision	***$319***

More Than 500 CD Titles are Available!!!



Multimedia System Best Buy!

- *Intel 486 DX33 Processor*
- *ZIF Socket 128K Cache*
- *4MB RAM*
- *1.44 MB FDD*
- *270 MB IDE HDD*
- *32Bit VL-B Graphic Accelerator Card/1MB*
- *2S.1P.1G Ports*
- *Internal Samsung CD ROM (W/Ext Case)*
- *16 Bit Stereo Sound Card (W/Ext Cable)*
- *60W Stereo Speaker*
- *5 CD Title*
- *Mini-Tower Case w/ 200W Power Supply*
- *14" Non-interlaced Monitor, .28 dpi*
- *101-key Enhanced Keyboard*
- *3 Button Serial Mouse*
- *Free Mouse Pad*
- *Free Software Option* ***$1499***

Sound Cards

Mitac	
16 Bit Sound Card w/Speaker	***$129***
Genoa	
8 Bit Sound Card	***$69***
Creative Labs	
Sound Blaster Pro Deluxe	***$106***
Sound Blaster 16 Basic	***$126***
Sound Blaster 16 SCSI 2/with ASP	***$182/212***
Sound Blaster 16 MultiCD/with ASP	***$165/195***
Video Blaster	***$305***
Wave Blaster	***$179***
Media Vision	
Pro Audio Spectrum 16	***$147***
Pro Audio Studio 16	***$189***
Gallant	
MIDI Kit	***$39***
Gallant 4000 w/Interface, Speaker & Microphone	***$79***
Gallant 5000 16 Bit Stereo w/Interface, Speaker & Microphone	***$109***
Gallant 6000 16 Bit/ASP Speaker & Microphone	***$159***
Logitech	
Logitech SoundMan 16, 16-bit Sound Card	***$98***

Speakers

Gallant GSP 1000 80W Speaker	***$85***
Gallant GSP 330 40W Speaker	***$55***

HD COMPUTER

Sales Hours: 9:00AM - 6:30PM Weekdays, 10AM - 6PM Saturdays (Pacific Time)

Sunnyvale
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

San Francisco
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

El Cerrito
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

Sacramento
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

Terms and conditions: *• Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted APO's welcome • Shipping charge not refundable • Return shippments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price and configurations are subject to change without notice • Allow 14 days to process refund. • Not Responsible for typographical errors.*

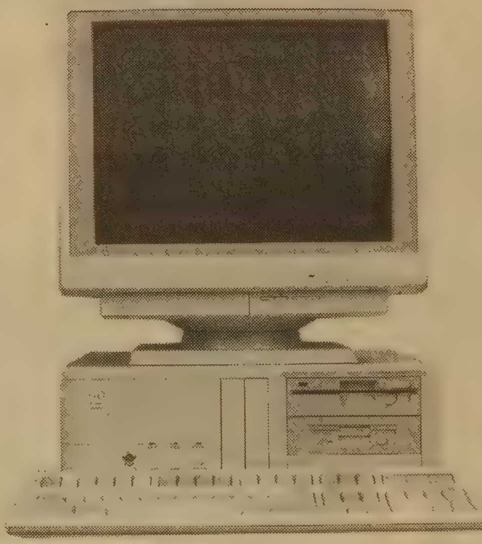
NETWORK SYSTEM

Design, Consulting, Installation, Trouble Shooting, Hardware & Software Configuration, Service & Support

HD Workstation

- *Desktop Case w/ 230W Power Supply*
- *Intel 486SX 25 Processor*
- *ISA/VESA Motherboard*
- *4MB RAM (Max 32MB)*
- *128K High Speed External Cache (Max 256K)*
- *TEAC 1.44MB Floppy Frive*
- *VESA Local Bus 32-bit Video Card/1MB*
- *14" Non-interlaced Monitor*
- *101 Enahnced Keyboard*
- *Microsoft Serial Mouse*
- *Free Mouse Pad*
- *NE-2000 Compatible Ethernet Card (Coax or 10Base-T)*

$875



HD File Server

- *Tower Case w/ 300W Power Supply*
- *Intel DX2-66 Processor*
- *EISA/VESA Motherboard*
- *8MB Ram (Max 256MB)*
- *256K High Speed External Cache (Max 1MB)*
- *Teac 1.2MB and 1.44MB Floppy Drives*
- *1.0GB SCSI II Hard Disk*
- *Adaptec 2742 EISA SCSI II Controller Kit*
- *VESA Local Bus 32-bit Video Card/1MB*
- *14" non-interlaced monitor*
- *101 Enhanced Keyboard*
- *Microsoft Serial Mouse*
- *Free Mouse Pad*

$2875

Novell Labs Tested & Approved

intel inside

It's your serve! New workstations from HD Computer will put you in the Winner's Circle. These little systems are loaded with features. Where else can you find complete network stations for under $1000?

With the extraordinary performance, HD Computer Systems allow you to race through heavy/intensive or demanding network environments. Accessing large amounts of data at high speed is the standard.

HD Computer offers unparalleled custom system configurations. When it comes to the best, the fastest and the most cost-effective, no one beats HD Computer network system solutions.

HD COMPUTER

SALES HOURS: 9:00AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/FAX: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • *MAJOR CREDIT CARDS ACCEPTED* • *NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS* • *QUALITY PO'S ACCEPTED APO'S WELCOME* • *SHIPPING CHARGE NOT REFUNDABLE* • *RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE* • *PRICE DOES NOT INCLUDE SHIPPING* • *PRICE AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE* • *ALLOW 14 DAYS TO PROCESS REFUND.* • *NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

VISA MasterCard DISCOVER AMERICAN EXPRESS

NETWORK SYSTEM

"We Stand Behind Our Technology, Quality and Service"

intel inside

Novell Labs Tested & Approved

Ethernet Adapters

- *DANPEX*

EN-2000B 16Bit BNC	***$65***
EN-2000BT 16Bit Combo	***$85***
EN-2000PB 16Bit Soft Set BNC	***$60***
EN-2000PT 16Bit Soft Set 10BT	***$60***
EN-2000P3 16Bit Soft Set Combo	***$75***
EN-6000B Pocket Lan BNC	***$137***
EN-6000T Pocket Lan 10BT	***$140***
EN-4001 4Port 10BT Hub Card	***$150***
EN-800A 8Port 10BT Hub	***$215***
EN-1212A 12Port 10BT Hub	***$485***

- *Accesories*

RG58 Coax Cable BNC 10'	***$8.00***
RG58 Coax Cable BNC 25'	***$10.00***
RG58 Coax Cable BNC 50'	***$13.00***
RG58 Coax Cable BNC 100'	***$25.00***
BNC Straight Adapter F-F	***$1.80***
BNC T Adapter F-M-F	***$3.80***
BNC Terminator 50 OHM	***$2.20***
BNC Connector Crimp on RG58	***$1.80***
BNC Connector Mold	***$2.00***
Gender Change DB25 F/F, M/M	***$4.00***
Gender Change Cent .36 F/F, M/M	***$7.00***
Gender Change DB25 to Cent .36	***$5.00***
Gender Change DB9 to DB25	***$4.00***
Gender Change DB9 to Din6	***$5.00***
RG58 A/U Coax Cable 1000	***$125.00***
RJ45 8 Twist Pair Cable 1000'	***$110.00***
RJ45 8 Twist Pair Cable 10'	***$3.50***
RJ45 8 Twist Pair Cable 25'	***$4.50***
RJ45 8 Twist Pair Cable 50'	***$9.50***

- *Microdyde/Novell*

NE-2000 Plus 16bit	***$115***
NE-2000T Plus	***$115***
NE-3200 EISA 32bit Coax/TP	***$539***
NE-2000 Plus 3	***$129***

Ethernet Adapters

- *Compatible*

NE-1000 8bit Coax	***$59***
NE-2000 16bit Coax/TP	***$60***
NE-2000 16bit Combo	***$75***
NE-2000 16bit 5 pack	***$235***
EP-888A Pocket Ethernet BNC + 10BT	***$145***
EP-808A 8Port Ethernet HUB	***$199***
EC-812 12Port Ethernet HUB	***$449***
EE-840 32Bit EISA Ethernet	***$289***

- *Intel*

Etherexpress 16 16bit 5pack/20pack	***$575/1995***
Intel 16bit Ethernet Combo PCLA 8100	***$129***
Intel 16bit Ethernet BNC PCLA 8110	***$115***
Intel 16bit Ethernet 10BT PCLA 8120	***$115***
Intel 16bit Ethernet Combo PCLA 8105/Flash	***$159***

- *3COM*

3C503 Etherlink II 16 Coax/TP	***$175***
3C503 Etherlink II 16 5pack	***$785***
3C507 Etherlink II 16 Coax/TP	***$295***
3C509 Etherlink III Coax/TP	***$145***
3C509 Etherlink III 5pack	***$645***

- *SMC*

Ether card plus elite 16 Coax/TP	***$119***
Elite ultra 16bit Coax/TP	***$115***
Elite ultra 16bit 6pack/24pack	***$675/2375***
SMC Ultra 16 Bit Ethernet Combo	***$135***

- *DLINK*

DE-600 TP Pocket Ethernet 10BT	***$199***
DE-205 TP 16Bit Ethernet 4 Port 10BT	***$290***

• *4 Port 10 Base-T Hub Card*	***$150***
• *8 Port 10 Base-T Hub*	***$215***
• *12 Port 10 Base-T Hub*	***$485***

HD COMPUTER

SALES HOURS: 9:00AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: *• MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS • QUALITY PO'S ACCEPTED APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE • PRICE DOES NOT INCLUDE SHIPPING • PRICE AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE • ALLOW 14 DAYS TO PROCESS REFUND. • NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

VISA MasterCard DISCOVER AMERICAN EXPRESS

NOTEBOOK

Twinhead Powerful Mono Notebook

- *Intel 486DX CPU*
- *4MB RAM Expandable to 20MB*
- *1.44MB Built-in Floppy Disk Drive*
- *One Serial Port, One Keyboard/Mouse Port*
- *84 Keys Keyboard with 12 Function Keys*
- *Monochrome, 64 Shade Sidelit Display*
- *MS DOS 6.0, MS Windows 3.1*
- *Physical Dimensions 8.5" x 11" x 1.8"*
- *Weight with Battery 5.8 lbs*

486DX-33 w/130MB HD	**$1988**
486DX-33 w/200MB HD	**$2130**
486DX2-66 w/200MB HD	**$2590**

- *Intel 486DX CPU*
- *4MB RAM Expandable to 20MB*
- *1.44MB Built-in Floppy Disk Drive*
- *One Serial Port, One Keyboard/Mouse Port*
- *84 Keys Keyboard with 12 Function Keys*
- *256 Color Display, Active Color Matrix*
- *Video Card w/512K RAM*
- *MS DOS 6.0, MS Windows 3.1*
- *Physical Dimensions 8.5" x 11" x 1.8"*
- *Weight with Battery 6.3 lbs*

486DX-33 w/130MB HD Dual Scan Color	**$2555**
486DX2-66 w/200MB HD Dual Scan Color	**$2795**

Twinhead Brilliant Color Notebook

86DX-33 w/130MB HD Active Color	**$3555**
486DX-33 w/200MB HD Active Color	**$3695**
486DX2-66 w/200MB HD Active Color	**$4155**

- *Intel 486SX-25/SX-33 CPU*
- *4MB RAM Expandable to 20MB*
- *130MB IDE Hard Disk*
- *One Serial Port, One Keyboard/Mouse Port*
- *One External VGA Connector*
- *One PS II Keyboard/Mouse Connector*
- *85 Keys Keyboard with Inverted " T" cursor Keys*
- *Build-in 1.44 MB Floppy Disk Drive*
- *Build-in 16mm Trackball*
- *Preloaded with Microsoft DOS and Windows*
- *11" (W) x 8.5" (D) x 1.9" (H)/5.5lbs*

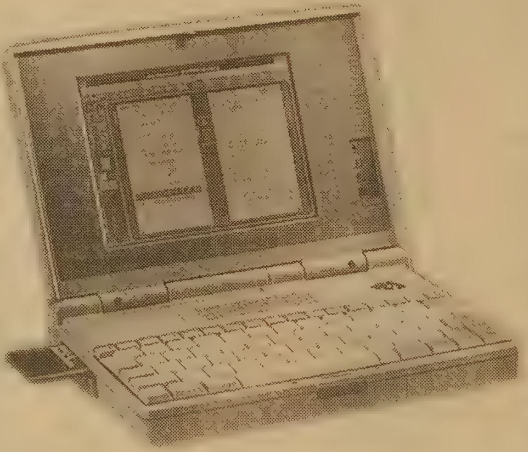
MTC-4020 Mono/Color Notebook

MTC-Mono	**$1265**
MTC-Color	**$1815**

MNB-4010 Subnote

- *Intel 486SX-25 CPU*
- *4MB RAM Expandable to 20MB*
- *2 PCMCIA Level II or Single Level III Slots*
- *Two Serial, One Parallel Connector*
- *One External VGA Connector*
- *One PS II Keyboard/Mouse connector*
- *79 Keys Keyboard with Inverted " T" cursor Keys*
- *Build-in 16mm Trackball*
- *Windows Sound System Compatible Sound Option*
- *Preloaded with Microsoft DOS and Windows*
- *Physical Dimensions 10.5" x 7.8" x 1.5"*
- *Weight : 4lbs*

MNB 80MB HD	**$1375**
MNB 130MB HD	**$1435**



• **Pocket Lan Coax (for notebook)**	**$137**
• **Pocket Lan 10 Base-T (for notebook)**	**$140**
• **14400 Fax/Moden Mini-Pocket (for notebook)**	**$229**

Twinhead 4 Pounds Powerful Subnote

- *2MB RAM Expandable to 8MB*
- *1.44MB External Floppy Disk Drive*
- *85MB IDE Hard Disk*
- *One Serial Port, One Keyboard/Mouse Port*
- *79 Keys Keyboard*
- *64 Gray Shades VGA Display*
- *PCMCIA Slot*
- *Built-in 2-Button Trackball*
- *MS DOS 6.0, MS Windows 3.1*
- *Physical Dimensions 7.1" x 10" x 1.6"*
- *Weight with Battery 4 lbs*

486SLC-33 Only **$1395**

Accesories

• *Mini-Pocket 14.4 Fax Modem*	**$229**
• *Dlink DE-600TP Pocket Ethernet*	**$199**
• *Dlink EN-6000B Pocket Lan BNC*	**$137**
• *Danpex EN-6000T Pocket Lan 10BT*	**$140**
• *EP 888A Pocket Lan BNC + 10BT*	**$145**

HD COMPUTER

Sales Hours: 9:00AM - 6:30PM Weekdays, 10AM - 6PM Saturdays (Pacific Time)

Sunnyvale
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

San Francisco
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

El Cerrito
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

Sacramento
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

Terms and Conditions: • Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted APO's welcome • Shipping charge not refundable • Return shippments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price and configurations are subject to change without notice • Allow 14 days to process refund. • Not Responsible for typographical errors.

VISA MasterCard DISCOVER AMERICAN EXPRESS

More Demo Items Available At Our Show Rooms!!!

Hard Drives

CONNER

IDE Hard Disk

250MB, IDE, 14ms	**$229**
340MB, IDE, 13ms	**$265**
540MB, IDE, 12ms	**$505**

SCSI Hard Disk

Capacity	M/N	Cache	Speed	Size	Internal	External
170MB	CP30170	64K	17ms	3.5x1	$225	$349
212MB	CP30200	256K	12ms	3.5x1	$285	$399
540MB	CP30540	256K	12ms	3.5x1	$525	$639
1.0GB	CPF1060S	256K	10ms	3.5x1	$995	$1119

WESTERN DIGITAL

250MB, IDE, 13ms, 2 Yr. Warranty	$235
340MB, IDE, 12ms, 3 Yr. Warranty	$285
420MB, IDE, 13ms, 3 Yr. Warranty	$365
540MB, IDE, 12ms, 3 Yr. Warranty	$535

Maxtor

IDE

131MB, IDE, 14ms, 1 Yr. Warranty	$179
245MB, IDE, 15ms, 1 Yr. Warranty	$229
345MB, IDE, 14ms, 2 Yr. Warranty	$275
540MB, IDE, 8.5ms, 256K Cache, 2 Yr. Warranty	$625

SCSI

245MB, SCSI, 15ms, 2 Yr. Warranty	$245
345MB, SCSI, 14ms, 2 Yr. Warranty	$345
540MB, SCSI, 8.5ms, 256K Cache, 2 Yr. Warranty	$625
1.2GB, SCSI, 8.5ms, 256K Cache, 2 Yr. Warranty	$1305

Quantum

IDE

Capacity	M/N	Cache	Speed	Size	Price
85MB	ELS85A	32K	17ms	3.5x1	$159
127MB	ELS127A	32K	17ms	3.5x1	$169
170MB	ELS170A	32K	17ms	3.5x1	$179
240MB	LPS240A	256K	Fast	3.5x1	$229
270MB	LPS270A	128K	Fast	3.5x1	$249
525MB	LPS525AT	512K	Fast	3.5x1	$559
540MB	LPS540AT	128K	Fast	3.5x1	$495

SCSI

Capacity	M/N	Cache	Speed	Size	Internal	External
170MB	ELS170S	32K	17ms	3.5x1	$185	$325
240MB	LPS240S	256K	Fast	3.5x1	$245	$355
270MB	LPS270S	128K	12ms	3.5x1	$265	$375
525MB	LPS525	512K	10ms	3.5x1	$565	$665
700MB	PD700	512K	10ms	3.5	$735	$859
1.0GB	PD1050S	512K	10ms	3.5	$895	$979
1.2GB	PD1225S	512K	10ms	3.5	$10555	$1195
1.8GB	PD1800S	512K	10ms	3.5	$1395	$1495

540 MB IDE **$495**
128K Cache, 3.5X1"

270 MB IDE **$249**
128K Cache, 3.5X1"

1.2GB SCSI **$1055**
512K

Seagate

261MB		**$229**
1.7GB	Fast SCSI-II 3.5" 9ms 5year Warranty	**$1299**

Capacity	M/N	Cache	Speed	Sixe	Int.	Ext.
341MB	ST3390N	256K	12ms	3.5x1	$399	$529
456MB	ST3550N	256K	12ms	3.5x1	$559	$679
525MB	ST3600N	256K	10.5ms	3.5x1	$679	$799
1.05GB	ST11200N	256K	10.5ms	3.5	$995	$1125
1.0GB	ST31200N	256K	9ms	3.5x1	$1089	$1199
1.4GB	ST41651N	256K	15ms	FH	$1099	$1299
1.9GB	ST42100N	256K	13ms	FH	$1489	$1689
2.1GB	ST42400N	256K	11ms	FH	$1749	$1949
2.1GB	ST12400N	256K	9ms	3.5	$1389	$1589
2.9GB	ST43400N	512K	10ms	FH	$2299	$2499
2.9GB	ST43401N512K	Fast Wide SCSI II		5.25	$2499	$2895

FUJITSU

• 128MB Removable Optical Diskette • Rewritable • 3.5" Diskette Size of Floppy • Unlimited Storage • Ideal for Data Mobility • Fast Access time and Data Transfer. • ISO Standard • 128MB Rewritable Optical SCSI Drive

Internal Drive **$789**

- Bare Optical Drive
- Low Profile, Only 1"
- 256K Cache
- 2511A
- Fast 30ms Seek Time
- 3600RPM

External Drive **$899**

- External Optical Drive
- 2511A
- Includes 1 cartridge
- Formatting Software for MAC (Free upon request)

520MB SCSI 3.5" **$565**

- 3.5" HH Drive
- 12 ms Seek Time
- 240K Read/Write Cache (SCSI)
- 5 Yr. Warranty

SCSI

Capacity	M/N	Cache	Speed	Size	Internal	External
520MB	M2624FA	240K	12ms	3.5	$565	$665
1.0GB	M2694ESA	256K	10ms	3.5	$899	$999
2.0GB	M2654SA	256K	12ms	FH	$1599	$1699

IDE

Capacity	M/N	Cache	Speed	Size	Price
520MB	M2624T	64K	12ms	3.5	$585

MICROPOLIS

MC2217

1.75GB Fast SCSI-II 3.5" 10ms Seek Time 5400 RPM **$1295**

IDE

Capacity	Model	RPM	Speed	Size	Internal
1.0GB	MC2210A	5400	10ms	3.5	$895
1.75GB	MC2217A	5400	10ms	3.5	$1295

SCSI

1,0GB	MC2210	5400	10ms	3.5	$845	$965
1.0GB	MC2210AV	Audio/Visual			$1099	$1229
1.4GB	MC1908	5400	11ms	FH	$1699	$1899
1.75GB	MC2217	5400	10ms	3.5	$1295	$1425
1.75GB	MC2217AV	Audio/Visual			$1399	$1499
1.8GB	MC1548	3600	14ms	FH	$1499	$1699
2.0GB	MC1926	5400	11ms	FH	$1699	$1899
3.0GB	MC1936	5400	11ms	FH	$2499	$2699

SyQuest

105MB Internal	105MB External
$339	$449

SUNNYVALE
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

EL CERRITO
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

SACRAMENTO
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

TERMS AND CONDITIONS: *• 30 day money back guarantee • 1 year parts warranty • Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted from Academic, Corporate and Public Institutions • APO's welcome • Shipping charge not refundable • Return shipments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price are subject to change without notice • Component warranties offers and claims are handled by the manufacturer • Components Compatibility is not guaranteed • No return on used items • All open returns are subject to 15% restocking fee • No exchanges or refunds on CD titles damaged CD's will be replaced with the same title only. • Allow 14 days to process refund. • Not Responsible for typographical errors.*

More Demo Items Available At Our Show Rooms!!!

Motherboards

MODEL	TYPE	DESCRIPTION	PRICE
P5-MPS	Pentium PCI	3 PCI, 4 ISA Slots, Flash EPROM BIOS, 256K Cache up to 512K, 0MB RAM up to 192MB	$499
S1441	Pentium Local Bus	3 VESA, 8 ISA Slots, 256K Cache up to 512K, 0MB RAM up to 128MB, 2 Bus Master	$485
486SP3	486PCI Local Bus	3-PCI, 4 ISA Slots, ZIF Socket, 256K Cache up to 512K, 0MB RAM up to 128MB, Built-in PCI SCSI Controller, Built-in IDE Disk Controller, Built-in 2 Serial, 1 Parallel Ports	$439
486SVI	EISA/VESA	8 EISA, 2 VESA Slots, Zif Socket, AMI BIOS, 256K Cache up to 1MB, 0MB up to 256MB	$359
S1437	EISA/VESA	7 EISA, 1 VESA Slots, SIS Chipset, AWARD BIOS, 256K Cache, 0MB up to 128MB	$335
VL-SV2	VESA Local Bus-	7 ISA, 2 VESA Slots, SIS Chipset, ZIF Socket, 128K Cache up to 256K, 0MB RAM up to 32MB	$165
VL-CV2	VESA Local Bus	8 ISA, 2VESA Slots, Contaq-A Chipset, ZIF Socket, 128K Cache up to 256K, 0MB RAM up to 32MB	$165
CLT486VLS2	VESA Local Bus	Made in USA, 8 ISA, 2 VESA Slots, Contaq-A Chipset, ZIF Socket, 128K Cache up to 256K, 0MB RAM up to 128MB	$185
MST453SG	Green Mode VESA Local Bus	8 ISA, 3 VESA Slots, SIS Chipset, Zif Socket 128K Cache up to 256KB, 0MB RAM up to 32MB	$185

386SX-33/CPU	$105
386DX-40/64K/CPU	$135
386DX/64K (Motherboard Only)	$85

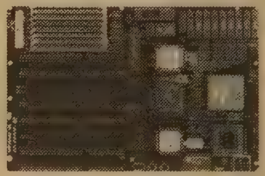
Micronics

VESA Local Bus/256K/DX-33 CPU	$660
VESA Local Bus/256K/DX2-66 CPU	$875
JX30 VESA Local Bus/256K/DX2-66 CPU	$925
EISA VLB/256K/DX-33 CPU	$845
EISA VLB/256K/DX2-66 CPU	$1060

AMI Motherboard

Enterprise III EISA/VESA /256K/486DX-33 CPU	$865
Enterprise III EISA/VESA/256K/486DX2-66 CPU	$1089
Enterprise IV EISA/VESA /256K/486DX-33 CPU	$745
Enterprise IV EISA/VESA/256K/486DX2-66 CPU	$990
Super Voyager VL-B/256K/486DX-33 CPU	$595
Super Voyager VL-B/256K/486DX2-66 CPU	$855

ORCHID



486 VESA Local Bus/256K/DX-33 CPU	$465
486 VESA Local Bus/256K/DX2-66 CPU	$675

Modems

Zoltrix 2400 Modem	$40
Zoltrix 9600/2400 Fax Modem	$59
ZOltrix 14400 Fax Modem	$129
US Robotics 14400 (Int)	$145
US Robotics (Ext)	$163
DSI 14.4K Internal Fax Modem	$129
DSM 1914XE Turbo External 19.6 Modem, 14.4K S/R Fax	$249
DSM 1414XB Internal w/ UART 16550 14.4K Modem, 14.4 S/R Fax	$139
DSM 1414XA External, Rockwell Technologies 14.4K Modem, 14.4 S/R Fax	$169
DSM 1414XP Mini-Pocket, 14.4K Modem, 14.4 S/R Fax	$229
DSM 2442XE External w/ Data-Tack Switch 2400 Modem, 9600 S/R Fax	$99
Hay-Opt 144-F External Fax Modem	$239
Hay-Opt 1441-F Internal Fax Modem	$219
Hay-A144E-F Accura External Fax Modem	$385
Hay-A144I-F Internal Fax Modem	$369
Intel 14.4K External Fax Modem	$185
Intel 14.4K Internal Fax Modem	$165
Mitac 14.4K External Fax Modem	$149
Mitac 14.4K Internal Fax Modem	$129
Tyin 2000 Fax Modem Audio Card	$209

Tape Back-Up

VIPER (SCSI)

2150S, 250MB VIPER, 6MB/Min	Internal	$339
	External	$449
2525S, 525MB VIPER, 6MB/Min	Internal	$499
	External	$599

ARCHIVE (SCSI)

(For IBM Compatibles, SUN, MAC & NeXT) Anaconda, 36MB, Min, SCSI-2, 1/4"" Tape Unit

1.3GB 2750	Internal	$799
	External	$899
2.0GB 2800	Internal	$999
	External	$1099

SUMMIT

With Central Point Backup Software, Runs off Floppy Port

120MB	Internal SE-120	$129
250MB	Internal SE-250	$159

COLORADO MEMORY SYSTEMS

Uses 2120 Tapes, Runs off Floppy Port

120MB	Internal DJ10 Jumbo 120	$99
250MB	Internal DJ20 Jumbo 250	$159

TRAKKER

Parallel Printer Port External Tape Backup Systems, Runs off Parallel Printer Port

120MB	External Trakker 120	$289
250MB	External Trakker 250	$329

WANGDAT (SCSI)

SCSI 4mm DAT

2.0GB (3100DAT)	Internal	$999
	External	$1099
4-8GB (3200DAT)	Internal	$1099
	External	$1199

MICROSOLUTIONS

Parallel Port	250MB External Tape Back-up	$359
Double Speed Parallel Port	External CD-ROM Backpack	$395

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: *• 30 DAY MONEY BACK GUARANTEE • 1 YEAR PARTS WARRANTY • MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS • QUALITY PO'S ACCEPTED FROM ACADEMIC, CORPORATE AND PUBLIC INSTITUTIONS • APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE • PRICE DOES NOT INCLUDE SHIPPING • PRICE ARE SUBJECT TO CHANGE WITHOUT NOTICE • COMPONENT WARRANTIES OFFERS AND CLAIMS ARE HANDLED BY THE MANUFACTURER • COMPONENTS COMPATIBILITY IS NOT GUARANTEED • NO RETURN ON USED ITEMS • ALL OPEN RETURNS ARE SUSBJECT TO 15% RESTOCKING FEE • NO EXCHANGES OR REFUNDS ON CD TITLES DAMAGED CD'S WILL BE REPLACED WITH THE SAME TITLE ONLY... • ALLOW 14 DAYS TO PROCESS REFUND. • NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

More Demo Items Available At Our Show Rooms!!!

Video Cards

Graphic Ultra+Windows Accelerator

Graphic Ultra Pro

Accelerated 1024x768 at 256 Colors - up to 74Hz. Non-interlaced.

1MB VRAM	$275
2MB VRAM	$365
with ATi Bus Mouse	add $25
Graphics UltraPro 2MB EISA	$395
Graphics Ultra Pro VLB Mach 32	
1MB VRAM	$295
2MB VRAM	$395
MACH32 - 16.7 Million Colors	
1MB DRAM	$205
2MB DRAM	$235
with ATi Bus Mouse	add $25
MACH32 PCI 2MB	$445

DIAMOND Computer Systems, Inc.

Diamond

Stealth Pro 1MB/2MB ISA	$245/345
Stealth Pro 1MB/2MB VLB	$255/335
SpeedStar Pro VESA or ISA	$125
Stealth 24 VESA or ISA 1280x1024	$155
Viper VLB 2MB VRAM Accelerator	$365
Viper PCI 2MB VRAM Accelerator	$435
Stealth PCI 1MB	$199

ORCHID

ORCHID

Celsius VLB 1MB VRAM/2MB	$225/285
Fahrenheit 1280 Plus 1MB	$149
Fahrenheit 1280 Plus VLB 1M/2M	$169/199
Fahrenheit VA or VA/VLB 1M/2M	$175/205
Kelvin PCI 1MB	$179

SPiDER Graphics, Inc.

Spider 32VLB

VESA Local Bus, 1280x1024 in 256 colors, 1024x768 @ 72Hz

1MB DRAM	$95
2MB DRAM	$135

Spider 32VLB Plus

VESA Local Bus, 1280x1024 in 256 colors, 1024x768 @ 72 Hz, 30% Faster Than VLB

1MB DRAM	$115
2MB DRAM	$165

Black Widow

VLB, IIT AGX-015, XGA Graphics Engine, VRAM 32-bit OS/2 2.1 Drive Support, up to 100Hz Refresh Rate

1MB DRAM	$209
2MB DRAM	$265

CARDEXPERT

ET-4000	1MB ISA	$85
ET-4000W32 VL-B	1MB	$125
ET-4000W32i VL-B	2MB	$185
ET-4000 W32P PCI	2MB	$225
ET-4000	1MB ISA True Color	$95
Cirrus Logic 5420	1MB ISA	$59
Cirrus Logic 5426 VLB	1MB	$95
Cirrus Logic 5428 VLB	1MB	$99
UMC VLB VGA	1MB Built-in IDE/2S1P1G	$115
WD Chipset ISA	1MB	$95

AMI

Fast View VLB	2MB RAM, Windows Accelerator Card	$359

matrox VIDEO PRODUCTS GROUP

MGA-ULT/2/A	2MB ISA	$679
MGA-IMP/3/A	3MB ISA	$979
MGA-IMP/3/V	3MB VLB	$979
MGA-PRO/4.5/V	4.5MB VLB	$1595
MGA-PRO/4.5Z/V	Z-Buffer VLB	$1895

9GXI L-25F	3MB ISA	$1259
9GXE L-10	1MB ISA	$249
9GXE L-10	1MB VLB	$249
9GXE L-11	2MB ISA	$345
9GXE L-11	2MB VLB	$345
9GXE L-12	3MB ISA	$425
9GXE L-12	3MB VLB	$425
9GXE L-14	4MB ISA	$595
9GXE L-16		$895

Hercules

HG720	Graphite VL Pro 2MB	$449
HG310	Graphite Pro 1MB ISA	$329
HG610	Graphite Pro 1MB VLB	$329

DYNAMITE

D301 PRO	1MB ISA	$189
D302 PRO	2MB ISA	$259
D601 PRO	1MB VLB	$189
D602	2MB VLB	$259

SVGA Video Cards

SVGA 256K Video Card		$29
SVGA 1024x768	1 MB	$59
SVGA VESA Local Bus		$79

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/FAX: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • *30 DAY MONEY BACK GUARANTEE • 1 YEAR PARTS WARRANTY • MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS • QUALITY PO'S ACCEPTED FROM ACADEMIC, CORPORATE AND PUBLIC INSTITUTIONS • APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE • PRICE DOES NOT INCLUDE SHIPPING • PRICE ARE SUBJECT TO CHANGE WITHOUT NOTICE • COMPONENT WARRANTIES OFFERS AND CLAIMS ARE HANDLED BY THE MANUFACTURER • COMPONENTS COMPATIBILITY IS NOT GUARANTEED • NO RETURN ON USED ITEMS • ALL OPEN RETURNS ARE SUBJECT TO 15% RESTOCKING FEE • NO EXCHANGES OR REFUNDS ON CD TITLES, DAMAGED CD'S WILL BE REPLACED WITH THE SAME TITLE ONLY • ALLOW 14 DAYS [illegible] • NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.*

VISA MasterCard AMERICAN EXPRESS

More Demo Items Available At Our Show Rooms!!!

Controllers

adaptec

SCSI Controllers

1522	16-bit 7HD/2FD Kit	$148
1542C	Bus Master Complete Kit	$245
1542C+	Bus Master Kit with Corel SCSI	$312
2742	EISA Kit 14HDS	$395
2842	VESA Kit Fast SCSI II	$325
1510ACDK	For CD ROM	$95

AMI

SCSI Controllers

FastDisk EISA Caching Controller up to 16MB	$449
FastDisk VLB VESA Local Bus Caching Controller	$449

DATA TECHNOLOGY CORPORATION

SCSI Host Adapter, Supports 7 SCSI Devices, up to 8 BG each, Floptical support thru the BIOS

DTC 3270VL	VESA Local Bus	$129
DTC 2278	VLB IDE	$39

TRANTOR®

ASPI Device Driver for: CD-ROMs, Photo CD, Tape Drives, Syquest, Opticals, Scanners, Hard Drives	$49
EPP Mini SCSI	$209

BusLogic

BUSLOGIC

SCSI Controllers

BT542	Busmaster SCSI-II Kit	$219
BT445S	VESA SCSI-II Kit	$299
BT545KT	Bus Master Fast SCSI	$229
BTB742KT	EISA SCSI-II Kit	$315
BTB747AK	EISA Fast SCSI Kit	$379

PROMISE TECHNOLOGY, INC.

VLB Cache Controller

DC-200	ISA IDE Cache	$95
DC-200M	ISA IDE/512K	$129
DL-420	VLB IDE/512K	$124
DC-4000	VLB IDE	$55

ORCHID

IDE VLB	VESA Local Bus	$69

UltraStor

ULTRASTOR
SCSI Controllers

14F	FD/HD (10MB/sec)	$195
24F	EISA, 64K, Fast (33MB/sec)	$359
34F	VESA Local Bus Controller	$269

VITEX

DC-IDE/4FD/2FD/2S1P1G/2.88		$45
DC-IDE/VLB/2S1P1G Ext. to VLB		$27
DC-IDE/200	VLB/2S1P1G	$39
IO-2S2P	2 Serial, 2 Parallel	$25
IO2S2P/16552	Serial/16550, 2 Parallel	$45
MGP Card		$19
MCGP Card		$19

TECO

DC-600B	ISA/IDE Cache	$129
DC-620B	EISA/IDE Cache	$199
DC-680	VLB/IDE Cache	$149
DC-800B/1MB	ISA/Fast SCSI II Cache Mirroring Controller/1MB RAM Built-in	$299
DC-820	EISA/Fast SCSI II Cache Mirroring Controller	$79

ATEN

VESA IDE/IO 2S1P1G	$45
16-but Super IDE/IO 2-16550	$59
16-bit IDE/IO 2S1P1G	$25
2-16550 High Speed I/O Card	$42

NCR PCI SCSI II HD Controller		$125
GSI-21-V	**Intelligent IDE**	$69
Co-Resident	**Intelligent IDE**	$49

HD

Sunnyvale
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

San Francisco
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

El Cerrito
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

Sacramento
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

Terms and conditions: • 30 day money back guarantee • 1 year parts warranty • Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted from Academic, Corporate and Public Institutions • APO's welcome • Shipping charge not refundable • Return shippments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price are subject to change without notice • Component warranties offers and claims are handled by the manufacturer • Components Compatibility is not guaranteed • No return on used items • All open returns are susbject to 15% restocking fee • No exchanges or refunds on cd titles damaged cd's will be replaced with the same title only... • Allow 14 days to process refund. • Not Responsible for typographical errors.

More Demo Items Available At Our Show Rooms!!!

Monitors

SONY

CPD 1430	14" SVGA	.25 dpi	$565
CPD 1730	17" SVGA	.25 dpi	$995
GDM 17SE1	1600 X 1280	.25 dpi	$1230
GDM2038	20" State of the Art		$2185

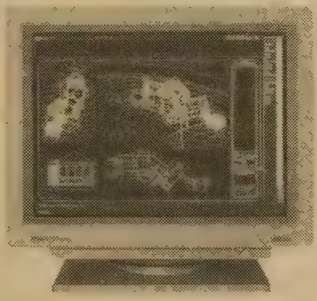
HITACHI

CM2095	20"	.31dpi	1280x1024NI	$1325
CM2187	21"	.28 dpi	1600x1280 NI	$2135

MITSUBISHI (IBM and Mac)

15"	Diamond Scan 15FS .28dpi Anti-static/Anti-Glare Flat Screen	$495
17"	Diamond Scan 17FS .28dpi Flat Screen with Invar Shadow Mask	$1045

NANAO



F550i	17"	Non-interlaced	1280x1024	.28 dpi	$955
F550iw	17"	Non-interlaced	1280x1024	.28dpi	$1159
F560iw	17"	AKA: the Green Monitor			$1375
T560i	17"	Non-interlaced	1280x1024	.25 dpi	$1629
T660i	20"	Trinitron Tube	1280x1024	.28 dpi	$2379
T750i	21"	Non-interlaced	1280x1024	.32 dpi	$1989
F760i	21"	1280x1024 @ 74Hz		.31 dpi	$209

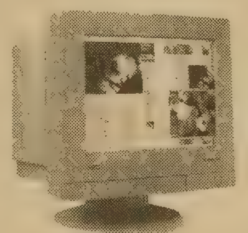
MAG

15FG	15" Non-interlaced, 1280 X 1024, Flat Screen .28	$495
17FG	17" 1280 X 1024 Flat Screen .26	$935

14" Mono Monitor			$95
14" VGA Mono Monitor			$119
14" SVGA	.39 dpi	1024 X 768	$219
14" SVGA	.28 dpi	1024 X 768	$245
14" Non-Interlaced SVGA	.28 dpi	1024x768	$259
14" Standard	.28 dpi	1280x1024 NI	$285
15" Non-Interlaced SVGA	.28 dpi	1024x768 Flat Screen	$385
17" Non-Interlaced SVGA	.26 dpi	1024x768 Flat Screen	$799

NOKIA (IBM and Mac)

449E	15" Max-80Hz	.28dpi Digi Control	1024x768 Green Monitor	$555
447B	17" Max-110Hz	.26dpi Trinitron Digi Control	1280x1024	$965
445M	21" Max-120Hz	.26dpi Digi Control	1280x1024 Green Monitor	$1999
445X	21" Max-120Hz	.26dpi Digi Control	1600x1200 Green Monitor	$2659



NEC

JC1431	14"	1024x768	$325
3FGe	15"	1024x768 @ 60Hz	$575
4FGe	15"	1024x768 @ 76Hz	$685
5FGe	17"	1024x768 @ 76Hz	$1075
5FGp	17"	1280x1024 (with Opticlear)	$1440
6FG	21"	1280x1024 @ 74Hz	$2389
6FGp	21"	1280x1024 (with Opticlear)	$2495

ViewSonic *The New Generation*

ViewSonic 6E
14" .28dpi Non-interlaced $280
ViewSonic-15 15" .28 dpi $445
ViewMatch Color Monitor
1280x1024 Non-interlaced, 76Hz at 1024x768, Flat Screen
ViewSonic-17 17" .28 dpi $999
76Hz at 1280x1024, Non-interlaced, Flat Square Screen
ViewSonic-20 20" .28 dpi $1635
1600x1280, Non-interlaced, Dual Page Display
ViewSonic-21 21" $1895

SUNNYVALE
Tel: (408)720-0493/FAX: (408)720-1967
1196 KERN AVE., SUNNYVALE, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/FAX: (415) 434-8128
500WASHINGTON ST., SAN FRANCISCO, CA 94111

EL CERRITO
Tel: (510)528-0753/FAX: (510) 528-0757
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO
Tel: (916) 483-4278/FAX: (916) 483-4826
2530 WATT AVE., SACRAMENTO, CA 95821

TERMS AND CONDITIONS: • 30 DAY MONEY BACK GUARANTEE • 1 YEAR PARTS WARRANTY • MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE AND DISCOVER CARDS • QUALITY PO'S ACCEPTED FROM ACADEMIC, CORPORATE AND PUBLIC INSTITUTIONS • APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABE • PRICE DOES NOT INCLUDE SHIPPING • PRICE ARE SUBJECT TO CHANGE WITHOUT NOTICE • COMPONENT WARRANTIES OFFERS AND CLAIMS ARE HANDLED BY THE MANUFACTURER • COMPONENTS COMPATIBILITY IS NOT GUARANTEED • NO RETURN ON USED ITEMS • ALL OPEN RETURNS ARE SUBJECT TO 15% RESTOCKING FEE • NO EXCHANGES OR REFUNDS ON CD TITLES DAMAGED CD'S WILL BE REPLACED WITH THE SAME TITLE ONLY. . • ALLOW 14 DAYS TO PROCESS REFUND. • NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

More Demo Items Available At Our Show Rooms!!!

Printers

HEWLETT PACKARD

HP DeskJet 500		$295
HP DeskJet 550c		$545
HP LaserJet 4		$1395
HP LaserJet 4M		$1895
HP LaserJet 4L		$749
HP LaserJet 4P	(2MB)	$1055
	(4MB)	$1395

Panasonic Office Automation OA

2123	24-pin	$239
2124	24-pin	$319
2624	24-pin Quiet	$399
2180	9-pin	$169
4430	Laser 1MB	$669

ALPS LSX 1000 Laser Printer ***$1190***

Mouse, Joystick & Scanner

Microsoft Serial Mouse (OEM)	$34.00
Microsoft Bus Mouse (OEM)	$59.00
Logitech MouseMan (Serial)	$55.00
Logitech Bus Mouse	$65.00
Logitech Trackball	$74.00
Logitech ScanMan Easy Touch	$199.00
Logitech ScanMan 256 w/ Omni Page	$189.00
Logitech CyberMan 3D Mouse	$79.00
Z-Nix Cordless Mouse	$28.00
3-Button Serial Mouse	$9.90
Joystick	$14.00
Mouse Holder	$2.50
Mouse Pad	$2.50
BTC-6700 ScanFlex ScanCopy Fax	$499.00

Keyboards

101-Key Enhanced Keyboard	$29
Keytronic 101	$36
OMNI101 (Northgate)	$98
Focus 9000 129 Keys Programmable	$65
Focus 8000 111 Keys w/ Calculator	$55
Focus 7000 With Track Ball	$59
Focus 2001 Click 101	$42
ProXellent 121 Keys Programmable (White)	$79
ProXellent 121 Keys Programmable (Black)	$89
KB-5181 Mechanical Firm Click	$35
KB-5311 101 Keys Membrane	$25
KB-5591 Trackball Keyboard	$49
PN501 Plug N' Save	$59

Accessories

3.5" DS/DD Disk	25 pack	$8.99
3.5" DS/HD Disk	25 pack	$9.99
5.25" DS/DD Disk	25 pack	$6.50
5.25" DS/HD Disk	25 pack	$7.50
3.5" DS/DD	10 Pack 3M	$7.00
3.5" DS/HD	10 Pack 3M	$8.50
5.25" DS/HD	10 Pack 3M	$8.00
DC-2120	3M	$13.00
Power Center	UL	$18.00
Power Strip	Plastic, UL	$5.00
Disk Box	5.25 x 100	$6.00
Disk Box	3.5" x 80	$6.00
Data Switches	DB25AB	$8.00
Data Switches	DB25 ABCD	$16.00
Mouse Pad		$2.50
Monitor Filter	14" Glass	$10.50
Dust Cover	Keyboard	$3.00
Dust Cover	CPU and Monitor	$5.00
Disk Clean Kit	5.25" or 3.5"	$2.50
Printer Cable	6'/10'	$3.00/$6.00
Printer Cable	15'/25'	$7.00/$9.00
RS232	DB25 10'/25'	$6.00/$10.00
Keyboard Ext. Cable	6'	$3.00
Modem Cable		$4.00
SCSI I/SCSI II Cable		$11.00/$40.00
486 CPU Cooling Fan		$9.50
586 Pentium CPU Cooling Fan		$19.00
14" Color Monitor Filter		$8.00
14" Anti-Glare Filter		$29.00
Printer Stand		$9.00
Mouse Holder		$2.50

And More...

ED

SUNNYVALE
Tel: (408)720-0493/Fax: (408)720-1967
1196 Kern Ave., Sunnyvale, CA 94086

SAN FRANCISCO
Tel: (415) 434-8118/Fax: (415) 434-8128
500Washington St., San Francisco, CA 94111

EL CERRITO
Tel: (510)528-0753/Fax: (510) 528-0757
10005 San Pablo Ave., El Cerrito, CA 94530

SACRAMENTO
Tel: (916) 483-4278/Fax: (916) 483-4826
2530 Watt Ave., Sacramento, CA 95821

TERMS AND CONDITIONS: *• 30 day money back guarantee • 1 year parts warranty • Major credit cards accepted • No surcharge for VISA, MC, AE and Discover Cards • Quality PO's accepted from Academic, Corporate and Public Institutions • APO's welcome • Shipping charge not refundable • Return shipments must be insured, prepaid and bear an RMA# on the shipping labe • Price does not include shipping • Price are subject to change without notice • Component warranties offers and claims are handled by the manufacturer • Components Compatibility is not guaranteed • No return on used items • All open returns are susbject to 15% restocking fee • No exchanges or refunds on cd titles damaged cd's will be replaced with the same title only... • Allow 14 days to process refund. • Not Responsible for typographical errors.*

VISA MasterCard DISCOVER AMERICAN EXPRESS

Japanese Pens

For Pictographic Languages, Handwriting Recognition Is A Plus

BY MITSU HADEISHI

PENS AND PALMTOPS

For many years pen computers have been relatively popular in Japan, even as they struggle to catch on here. Conversely, keyboards (on typewriters and then on computers), long popular in the West, have not gained quite as strong a foothold there.

Though personal computers are increasingly popular, one barrier to acceptance in Japan has always been the fact that the complex writing system used there (called "kanji" in Japanese, a system of pictographic writing which originated in China) has always made keyboards less convenient to use. In the past, for example, kanji typewriters were sometimes made with very complicated keyboards, with hundreds of keys, making them very difficult to memorize. Later, as computers became more sophisticated, simpler forms of data entry were invented, including translation from kana (phonetic letters) or romaji (Roman characters) to kanji; nevertheless, all are less straightforward than you might like. For this and other reasons, use of keyboards, and therefore computers, is still less universal in Japan than it is here.

By contrast, however, handheld and portable data storage units have been popular in Japan (often used as portable dictionaries, for example, to look up obscure kanji), and pen computers of all sorts have been prevalent there for some time as well.

I myself have not been to Japan for a number of years, but my curiosity in the subject was piqued recently when a friend of mine lent me a Japanese palmtop computer he'd purchased when visiting Japan in 1990. Since I write this column, he thought I might be interested to take a look at what the Japanese were doing in palmtop computers several years ago.

This unit he lent me is a Sony PTC-500. My friend doesn't actually understand a word of Japanese, but he was interested enough in the technology that he decided to buy one of these machines. He found the pictures in the manual to be explanation enough, apparently. My own Japanese is quite poor, but I was also able to make out the instructions well enough to get a good feel for the usability of the machine.

The unit is rather on the large side to be called a "palmtop"; closed, it measures 8" x 6" x 1 3/4"; more of an "armtop." But it is light enough to be carried on one "arm," and of course we're talking about 1990 technology; things were a lot bigger back then. In order to have the computing power capable of doing kanji character recognition, the machine had to be much more powerful than a Sharp Wizard or Casio B.O.S.S., which meant it must be comparatively larger and heavier; still, it comes with a convenient carrying case and is not unreasonably unwieldy. It is, of course, much smaller than the average notebook or even subnotebook computer.

The interface uses a "page" metaphor, much like the Apple Newton; you store information in pages, which scroll off as you finish your work. The pages scroll horizontally, not vertically, however, giving a "book" feeling (rather than a "notepad" feeling) to the interface. Icons at the top of the screen hold "desk accessory"-like tools, which include a calculator, a world time function, a phone dialer, a clock, and most importantly, a data entry tool, among other tools. Text entry is not free-form (like the Newton), rather, you enter text into preformatted squares. Each square can contain a number, letter, or Japanese character. This would at first seem a much more primitive interface than the Newton; however, considering the fact that a single character can be a whole word in Japanese, it's not quite as cumbersome an interface for Japanese writers as it is for English writers.

Now, my Japanese is extremely bad, and my handwriting is hardly passable. Like many Japanese-American children, I was sent to "Japanese school" for an hour a day after school; and, like most of these same Japanese-American children, I didn't learn much. However, despite my poor handwriting skills, the machine was able to easily recognize my name, written out in characters. In addition, there were a number of other ways to enter characters: for example, choosing characters from different kinds of menus and so forth.

One thing that was quite noticeable about the handwriting recognizer was that, like the Newton, the more complex the pattern, the easier it was for the unit to recognize it (because it was much less ambiguous). Ironically, this machine had the easiest time with those characters I found the most difficult to recognize.

One thing that makes the Newton particularly problematic is that, although it recognizes complex words very easily, it does not have a database of proper names and has a very difficult time with them. This, of course, is precisely the sort of thing that you want to use a personal organizer for. However, in Japanese, names are written as sequences of recognized characters; it would be as though in English people were named things like "Flower Child" (Hanako—a typical female name in Japan) or "Mountain Field" (Yamada—a common Japanese surname). Since the

RESOURCES:

ASR-80 2.5" removable hard disk drive
Avatar Systems Corp.
1455 McCarthy Rd.
Milpitas, CA 95035
(408 321-0110

FastLynx PC Link software for Sharp OZ-8000 and OZ-9000 series, Time & Expense Card 9000 for the OZ-9000
Rupp Technology Corporation
3228 E. Indian School Rd.
Phoenix, AZ 85018
(602)224-9922

Little Drive III Plus PCMCIA Drive for Desktop PCs
Coastal Electronics
5724 La Jolla Hermosa
La Jolla, CA 92037
1-800-PC1-LINK

Copyright © 1994 by Mitsu Hadeishi. All rights reserved.

Libre Service Computer Inc.

SAN FRANCISCO
(NEW LOCATION)
1569 Sloat Blvd. Suite 300
(Second Floor of Crown Book)
San Franciaco, CA 94132
415-731-8966
Fax: 731-8967
Tue-Sat 10 am to 6 pm

No Down Financing Available

•Apply for the Libre-Credit Card
(with no application fee)

Advertised prices based on 3% cash purchase discount.
Price subject to change without notice.
Check for our everyday low price and other new products.

FREMONT
48860 Milmont Drive, 102C
Fremont, CA 94538
510-438-0402
Fax: 510-438-0489
Tue-Sat 10 am to 6 pm

CAPITOLA
1220 41st Avenue, Unit G
Capitola, CA 95010
408-479-7319
Fax: 408-479-4316

SACRAMENTO
5112 Madison Ave.
Sacramento, CA 95841
916-349-8200
Fax: 916-349-8299
Tue-Sat 10 am to 6 pm

VESA Local BUS System

IBM 486-SLC 2-66 Mhz, 128K Cache; 4 MB; On board math co-processor; Mini tower; VLIDE 2S, 1P, 1G; 1.2 & 1.44 floppy drives; 250 MB hard drives; VL SVGA card / 1 MB; 14" SVGA monitor 0.28; 101 keyboard.

Monthly Sale $1,149

VL 486DX-33Mhz 256K Cache;
(P24T ready)

Monthly Sale $1,199

Blue Lightening

IBM 486-BL 3X 75Mhz, 256K Cache 16k internal cache; 4 MB; medium tower; On board math co-processor; Two high speed serial ports; One bi-directional parallel port On board VL IDE Controller 1.2 & 1.44 floppy drives; 340 MB hard drives; Local bus video card / 1 MB; 14" SVGA monitor 0.28; 101 keyboard.
3 yrs warranty on system board

new $1,599

Upgradable: Pentium/overdrive processor, 512K External Cache, 64MB memory

Pentium P5

P5 - 60 CPU W/fan, 256K Cache
Vesa Local Bus (PCI option)
8 MB; medium tower; VLIDE 2S, 1P, 1G; 1.2 & 1.44 floppy drives; 340 MB hard drives; VL SVGA card / 1 MB; 14" SVGA monitor 0.28; 101 keyboard.

BEST Price Performance $2,599

P5 - 66 CPU $2,699

Upgradable: 512K External Cache, 192MB memory

Motherboard with CPU

386SX-40Mhz	$75
386DX-40Mhz 128K	$105
486DX-33Mhz 256K	$370
*486DX-33VL 256K	$380
*486DX2-66VL 256K	$490
486SLC2-66VL 128K	$290
486BLX-75VL 256K	$590
386/486VL 256k upgradable motherboard w/o CPU	$ 115

* (P24T ready)

Video Options:

Mono graphic card	$15
SVGA card /1MB	$55
Window Accelerator Card	$60
SVGA VL /1MB	$90
SVGA monitor .39mm	$199
SVGA monitor .28mm	$230
SVGA monitor non-int	$250
15" SVGA .28mm	$299
15" SVGA MP Control	$399
Viewsonic 6E/15E/15	$279/369/429
Viewsonic 7/17/21	$779/939/1749

HD & Floppy Drives

120 MB HD (IDE)	$165
170 MB HD (IDE)	$190
250 MB HD (IDE)	$220
340 MB HD (IDE)	$275
420 MB HD (IDE)	$350
1.2 MB floppy drive	$ 48
1.44 MB floppy drive	$ 38

486 SLC2-66Mhz Multi-media System

VESA Local Bus; 128K Cache;4 MB; Medium Tower; 1.2 & 1.44 FD; 2S, 1P, 1G Port; 250 MB HD; SVGA Card(1MB); 14" SVGA monitor 0.28; 101 KB; 16 bit sound card; Double speed CD Rom + Title; & Speaker.

$1,499

Multi-media Kits

Sound Blaster 16/16MCD	$129/$169
Sound Blaster SCSI-2 W/ASP	$189/209
Media Vision Spectrum 16 (SCSI)	$119
Medium Thunder Spectrum 16	$119
Mitsumi Double Speed CD Rom	$179
Nec 3xi (SCSI)	$539
Toshiba XM 3401B (SCSI)	$349

Printers

SAMSUNG

24 pin dot matrix	$ 169
8000 Laser, 1200 DPI	$1749

HP

DeskJet Portable	$ 329
DeskJet 500/500C/550C	$289/389/569
LaserJet 4/4L/4M/ML	$1389/679/1899/1029
4P/4MP/1200C	$979/1379/1369

Others

IDE controller w/IO	$15
VLIDE-I/O	$29
Serial mouse	$12
2400 baud modem	$30
2400/9600 S/R fax modem	$50
14.4 fax modem	$119
101 keyboard	$20
Mini-tower case	$55
Medium tower case	$75
250MB tape back up	$160
Great Selection of CD Titles	Call

NEW SERVICE PROGRAMS & UPGRADE SPECIAL

- **On-site Warranty**
- **Repair & Upgrade Service**
- **Used Computer Trade-in Program**
- **Network Consultion & Installation**
- **We Buy/Sell Used Monitors, Please Call.**
- **Special Sale:** Upgrade Your 286 to 386/40DX 128K Cache w/4MB for $280.00 Labor Included.

THESE LITTLE BABIES BOUGHT ELTECH COMPUTERS

THIS ONE DIDN'T

ELTECH ISA BUS SERIES

- Motherboard with CPU
- 4MB Ram installed
- TEAC 1.2MB & 1.44MB Drives
- IDE Controller 2HDD & 2FDD
- 2 Serial Ports and 1 Parallel Port
- 210MB IDE Hard Drive
- Super VGA card with 1MB
- 14" Super VGA Color Monitor
- 101 keys Enhanced Keyboard
- Baby Desktop or Mini Tower Case with Power supply
- MS DOS 6.2 with Manual and Disks

486DX2-66 with 256K Fast cache..............$1,375
486DX2-50 with 256K Fast cache..............$1,248
486DX2-33 with 256K Fast cache..............$1,199
486DX2-25 with 128K Fast cache..............$1,099
386DX2-40 with 128K Fast cache..............$999

- Multimedia Upgrades:

  Double Speed CD Rom,
  16Bit Sound Card, Speaker *$310*

ELTECH VESA LOCAL BUS SERIES

- 486 VESA Local Bus Motherboard with CPU
- 4MB Ram installed
- TEAC 1.2MB & 1.44MB Drives
- VESA IDE Controller 2HDD & 2FDD
- 2 Serial Ports and 1 Parallel Port
- 210MB Fast IDE Hard Drive
- Window Accelerator VLB with 1MB (32Bit)
- 14" Super VGA Color Monitor
- 101 keys Enhanced Keyboard
- Baby Desktop or Mini Tower Case with Power supply
- MS DOS 6.2 with Manual and Disks

AIR 486DX2-66 with 256K Fast cache.......$1,399
AIR 486DX2-50 with 256K Fast cache.......$1,298
AIR 486DX2-33 with 256K Fast cache.......$1,249
IBM 486SLC2-66 with 128K Fast cache....$1,199
IBM 486BL-75 with 256K Fast cache........$1,499

- Multimedia Upgrades:

  Double Speed CD Rom,
  16Bit Sound Card, Speaker *$310*

ELTECH PCI LOCAL BUS SERIES

- PCI Motherboard with CPU
- 8MB Ram installed
- TEAC 1.2MB & 1.44MB Drives
- Controller for 2HDD & 2FDD
- 340MB High Speed Hard Drive
- 2 Serial Ports and 1 Parallel Port
- Diamond Stealth SVGA with 2MB of Ram
- 14" Super VGA Color Monitor
- 101 keys Enhanced Keyboard
- Baby Desktop or Mini Tower Case with Power supply
- MS DOS 6.2 with Manual and Disks

486DX2-66 with 256K Fast cache..............$1,999
486DX2-50 with 256K Fast cache..............$1,899
486DX2-33 with 256K Fast cache..............$1,849
Pentium 60 with 256K Fast cache..............$2,699
Pentium 66 with 256K Fast cache..............$2,999

- Multimedia Upgrades:
  - Toshiba 3401 CD Rom, 16Bit Sound Card, Speaker *$495*
  - NEC 3Xi CD Rom, 16Bit Sound Card, Speaker *$625*

GRAPHIC CARDS:

- Diamond Stealth with 2MB *$275*
- Diamong Viper with 2MB.............*$565*
- Orchid 1280 Plus with 1MB *$145*
- Orchid 1280 Plus with 2MB *$185*
- Controllers:
  - Promise VESA LB IDE w/o cache....*$129*
  - Adaptec SCSI 1542............................*$179*
  - Adaptec SCSI 2742............................*$525*
  - Adaptec SCSI 2842............................*$295*
- Keyboards:
  - Keytronics *$58*
  - Maxi-Switch 101 ....*$28*
  - Maxi-Switch Pro.................................*$68*
  - Focus 2001...*$58*
  - Focus 9000...*$68*
- Mouse:
  - Microsoft Serial Mouse *$55*
  - Logitech Mouseman *$39*
- Multimedia:
  - Creative Lab-Sound Blaster Basic 16...*$139*
  - Sound Blaster SCSI 16.......................*$179*
  - Media Vision-Spectrum 16.................*$129*
  - Studio 16 Media Vision *$178*
  - Mitsumi Double Speed Internal CDROM........................*$195*
  - NEC 3 Speed Internal CDROM.......*$425*
  - Toshiba 3401B Internal CDROM.....*$565*
  - Sony Double Speed Internal CDROM.............................*$185*
- Others:
  - Memory upgrades ....*call*
  - Hard Drives upgrades ....*call*
    (we carry different brand and various capacity)
  - Intel Etherexpress 16 TP/Coax..........*$105*
  - 96/24 Internal Fax/Modem.................*$49*
  - 14.4 Internal Fax/Modem...................*$139*
- Monitors:
  - SVGA Non-Interlace 0.28 DP *$275*
  - Viewsonic 6E.......................................*$295*
  - Viewsonic 15E.....................................*$415*
  - Viewsonic 15 ....*$475*
  - Viewsonic 17G *$899*
  - Viewsonic 17 ....*$999*
  - Viewsonic 20 ....*$1,699*
  - Viewsonic 21 ....*$1,999*

Call for your order

Phone: (510) 438-0990
Fax: (510) 438-0663

Store hours: Mon-Fri 10:00AM - 6:30PM

Made in U.S.A.

ELTECH RESEARCH INC.
Silicon Valley's Best Kept Secret

48890 Milmont Drive #108D
Fremont, CA 94538

PC WORLD BEST BUY

MICROSOFT WINDOWS COMPATIBLE

Prices, terms, availability are subject to change without notice. not responsible for typographical errors. Products mentioned are the registered trademarks. All other trademarks are the property of their respective owners.

PenCell Spreadsheet for Sharp OZ-9000
PenWare, Inc.
845 Page Mill Rd.
Palo Alto, CA
94304-1011
(415)858-4920

Franklin Digital Book System
Franklin Electronic
Publishers, Inc.
122 Burrs Rd.
Mt. Holly, NJ 08060
(609)261-4800

Sony PTC-500
Sony Corporation
(201)930-SONY
1-800-222-SONY

names are made up of characters that form words, which can be recognized often with greater ease than phonetic characters, proper nouns are more easily recognized.

As a result, the Sony machine is better-suited for recognizing names, making handwriting recognition a practical interface for name/address database programs (provided, of course, you can remember the characters that make up the name, which is not always obvious even if you know the phonetic spelling of the person's name). This explains to a large extent, perhaps, why pen computers are now and continue to be popular in Japan, and why they have yet to take off here.

This is hardly an advantage for the Japanese, of course; the fact that pen interfaces are more well suited for Japanese writing is complemented by the fact that keyboards are comparatively cumbersome.

Wizard Expansion

Relatively disappointing sales of the Apple Newton, AT&T Eo, and Tandy Zoomer have prompted a number of manufacturers to reevaluate the usefulness of the traditional keyboard. Rumor has it that some new pen computers to be released later this year will include keyboard options, including Apple's next offering.

Of course, happy users of Sharp Wizards and other similar organizers could have told them that long ago; though keyboards are considered "hard to use" by some pen computing aficionados, many people are now realizing that for many tasks, pens are even more difficult to use. As with the mouse and keyboard, you might also want both in your portable computer; a keyboard for fast data entry, and a pen for drawings, diagrams, and user-interface control.

Consistent with this trend, PenWare, Inc. has announced that it's releasing a Sharp OZ-9000 Wizard version of the PenCell™ spreadsheet software. PenCell is available for a number of pen-based operating systems already, but this is the first offering on a portable organizer-class machine. Rather than focusing on a Newton or Zoomer version, PenWare has chosen to create one for the popular OZ-9000 Wizard organizer (which has a keyboard). Using the pen for manipulation of cell contents (allowing an intuitive drag and drop interface for data selection and movement) and the keyboard for data entry, the PenCell spreadsheet combines the best of both worlds in a compact package. PenCell is a full-function spreadsheet with graphics capabilities, and can add a tremendous amount of functionality to the OZ-9000. The card lists for $229.99.

Rupp Technology has released a Time & Expense Management card specifically for the Sharp OZ-9000 Wizard organizer. This allows OZ-9000 users to have a time/expense management card that takes advantage of the 9000's pen interface. The Time and Expense Card 9000 can organize your information by client, project, or service type/activity. It comes with a separate Itinerary Manager that keeps track of travel expenses, and a special foreign currency conversion calculator for added convenience. The price has not yet been determined, but the machine is slated to be shipping by the time you read this.

Also from Rupp Technology is FastLynx, a Windows-based PC-to-Wizard link program that will work with both the OZ-8000 and 9000 series organizers. FastLynx supports SDF, CSV, dBase, and other file import and export formats. It retails for $99 including link cable, or $39.95 without.

Tiny Removable Hard Drives

In the realm of hard disks and storage technology, when it comes to physical size, smaller is better.

continued on page 263

EXCELLENCE IN QUALITY & SERVICE
The Networking & Connectivity Specialists

SCO THE SANTA CRUZ OPERATION
SunSoft A Sun Microsystems, Inc. Business

Authorized Reseller SCO UNIX, SCO Open Desktop, SCO Open Enterprise System. Authorized Sunsoft Dealer. We offer complete "Turn-key" multi-user & multi-tasking solutions under SCO, SunSoft, & Novell. ISA & EISA systems for 4 to unlimited users. Up to 256MB RAM & 34GB hard drive array supported. Multi-processor systems are also available. Our Servers support Pentium.

We carry a full line of hardware options and software solutions for SCO, UNIX & Novell.

AST RESEARCH INC.
COMPAQ
EQUINOX
DigiBoard

AMI MICRONICS
VESA Local Bus
Truly The First VESA Compatible Local Bus System

486 DX/33 Complete System	**$1675/1650**
486 DX2/50 Complete System	**$1875/1775**
486 DX2/66 Complete System	**$1975/1995**

Above AMI/Micronics Systems Include:
Diamond SpeedStar Pro w/1MB • 4MB RAM • 245MB Hard Drive • 1.2 & 1.44 Floppy Drives • Non-Interlaced 14" SVGA Monitor • DOS 6.2 • Windows 3.1
101 Keyboard • Mouse • Mid-Tower Case • 2 Serial, 1 Parallel & 1 Game Ports
Lifetime technical & 5 year labor warranty
Other Local Bus Systems Also Available

ALR Evolution VQ Series
Pentium Processor 66MHz
PCI BUS Available
- 64 Bit Wide Data Bus
- 512K High Speed Write Back Cache

Call for Further Information and Pricing
"Fastest Pentium Available"—PC World

486-DX33/50/66 MHZ
245MB Hard Drive Super VGA Systems
- 128K Cache w/Zif Socket Pentium Upgradable
- 4MB RAM
- 1.44 Floppy Drive
- 245MB Hard Drive
- SVGA Non-Int. Monitor .28dp
- SVGA Card w/1MB
- 2 Serial, 1 Parallel, & 1 Game ports
- Mid Tower case
- Enhanced 101 keyboard
- MS DOS 6.2
- Lifetime technical & 5 year labor warranty

$1395/1495/1595

HEWLETT PACKARD
Authorized Dealer
PRINTERS

DeskJet 500	$295
DeskJet 500C	395
DeskJet 550C	495
DeskJet 1200C	1395
LaserJet 4P	975
LaserJet 4/4M	CALL
LaserJet 4si/4siMX	CALL

OUR SERVICES & WARRANTY INCLUDE - FREE Needs Analysis - FREE Installation of Software on System purchase - FREE 1 hour data transfer from your existing computer - Lifetime technical support - 5 Year labor, 1 Year Parts Warranty - Complete Turnkey Solutions - On-Site Service Available

(510) 906-1690
Fax (510) 906-1699
1554 Newell Avenue,
Walnut Creek, CA 94596
Hours: M-F 9-6 Sat 11-3

Systems Unlimited
Systems & Enterprise Wide Networking
Closed last Saturday of the month • Prices subject to change w/o notice

KFC & GREENLEAF DISTRIBUTION
Together Brings You The Best Value!

KFC 17" SVGA COLOR MONITOR
- 1280x1024 NI
- .26 mm Flat Screen
- Full Size Edge to Edge

$720

KFC 14" SVGA COLOR MONITOR
- 1024x768 NI
- .28mm
- Full Size Edge to Edge

$255

KFC 15" SVGA COLOR MONITOR
- 1280x1024 NI
- .28mm Flat Screen
- Full Size Edge to Edge

$395

Model No CA1507
- BYTE Magazine Award Winner
- External Adjustment For Distortion

JANUARY 1994 BYTE BEST VALUE GENERAL BUSINESS COLOR MONITOR

PC Digest RATINGS REPORT ★★★★ Recommandation November 1993

ISO 9000

energy EPA POLLUTION PREVENTER

KFC 15" Flat screen color monitor delivers ultimate screen performance. From edges to edges providing 36% more viewing area than conventional 14" monitors, the flat square screen displays consistent image with no distortion at edges. 1280x1024 resolution and high-contrast screen create much brighter and crisper images. The non-interlaced 70 Hz refresh rate makes display absolutely flicker-free and crystal clear. CA1507 is ideal for today's sophisticated business applications from CAD/CAM to desktop publishing.

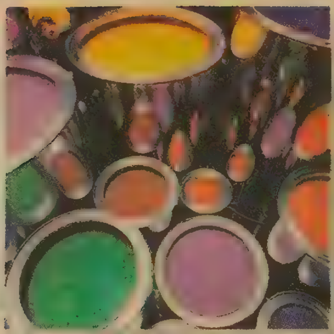
Every KFC monitor is built to last. Committed to quality products and excellent services for 10 years. KFC has earned millions of satisfied customers all over the world.

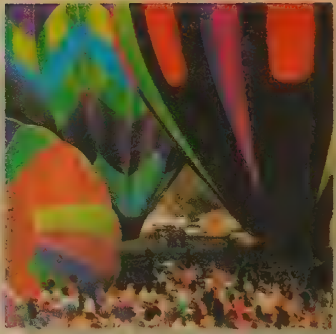
Please Call For Other KFC Models

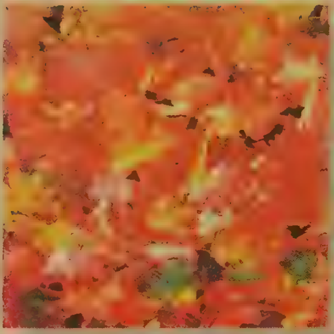
KFC

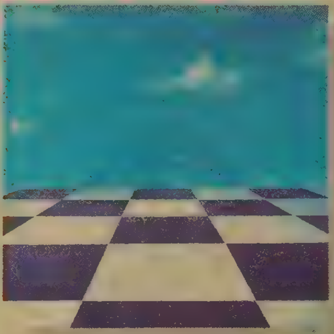
Distributed By:

GREENLEAF DISTRIBUTION, INC.
1150 Karlstad Drive
Sunnyvale, CA 94089
TEL: (408) 734-8888
Fax: (408) 734-3338









The Fastest Route To 1200dpi Scanning. For Under $1,400.

CALL NOW FOR YOUR FREE GUIDE TO BETTER SCANNING

Only one company offers 1200dpi flatbed color scanning that performs at speeds that justify its purchase.

UMAX® is the company.

UC1260 is the scanner.

This versatile legal-sized scanner delivers incredible resolution at faster speeds than any other scanner around (see chart). And not just at the lower dpi levels where black & white or simple color images are used. But at the higher dpi levels where crisp, brilliant resolution is critical. Where image quality is directly related to your reputation and your company's image.

	UMAX UC1260	H-PIIcx	Epson
Hardware Resolution	1200 x 600dpi	400 x 400dpi	400 x 400dpi
Maximum Resolution	2400 x 2400dpi	1600 x 1600dpi	1600 x 1600dpi
Maximum Scanning Area	8.5 x 14″	8.5 x 11.5″	8.1 x 11.0″
Scanning Throughput*			
300dpi/8.5 x 11″	2:00 Minutes	1:55 Minutes	4:05 Minutes
600dpi/8.5 x 11″	5:22 Minutes	9:27 Minutes	17:35 Minutes
800dpi/4 x 5″	2:20 Minutes	3:38 Minutes	6:36 Minutes
1200dpi/4 x 5″	5:28 Minutes	9:05 Minutes	13:00 Minutes
Single Lamp Design	Yes	Yes	No
Software Bundles	Complete PhotoShop	Photoshop LE	PhotoShop LE
Descreening	Yes	No	No
Unsharp Masking	Yes	No	No
Suggested Retail	$1,395	$1,179	$1,500

The UC1260 offers unparalleled value with features previously found only on more expensive flatbed scanners. Like auto calibration that allows for maximum color accuracy and control. 16.8 million 24-bit colors. 256 shades of gray. Built-in SCSI II for the high performance speed needed for high resolution graphics. 2400 x 2400dpi through software interpolation. And, it performs on the Macintosh,® Windows,® and UNIX™ platforms.

Could there be more? With UMAX there is.

The complete Adobe® PhotoShop™ software is bundled with every UC1260. Free.

Call now and find out how fast you can get true 1200dpi scanning at a price that may just get you to buy two.

Call toll free **1-800-866-UMAX (8629).**

Featuring our Enhanced Interface Software, optional Transparency Unit and optional Automatic Document Feeder.

*These tests were carried out on a Centris 650 with 40MB RAM; 300MB Hard Drive and Adobe PhotoShop 2.5. Results on Macintosh and PC were virtually identical.

UMAX®

The Magic of Color™

Access Computer Technologies (408) 247-4444
Computerware-San Rafael (415) 457-8039
Fry's Electronics-Sunnyvale (408) 733-1770
Computerware-Berkeley (510) 649-1631
Computerware-Capitola (408) 464-2187
Fry's Electronics-Fremont (510) 770-3797
Computerware-S.F. (415) 362-4830
Computerware-Dublin (510) 803-1591
Fry's Electronics-Palo Alto (415) 496-6000
Computerware-Sunnyvale (408) 732-0200
D&G Connecting Point (916) 721-7727
M&P Computers-Sunnyvale (408) 738-8578
Computerware-Sunnyvale (408) 736-6227
D&G Connecting Point (916) 927-3435
Computerware-Palo Alto (415) 323-7559
Fry's Electronics-Campbell (408) 364-3700

© 1994 UMAX Technologies, Inc., 3353 Gateway Blvd., Fremont, CA 95438. Tel. 510-651-8883. Fax 510-651-8834. UMAX is a registered trademark of UMAX Data Systems, Inc. *"The Magic of Color"* is a trademark of UMAX Technologies, Inc. Other company names and product names are trademarks of their respective companies.

A Business Card Scanner And Database

CardGrabber Offers An Integrated Hardware And Software Solution For Managing The Business Cards And Contacts You Collect

BY ED KAHN

RESOURCES:
CardGrabber
Pacific Crest Technologies, Inc.
4000 MacArthur Blvd., Ste. 6800
Newport Beach, CA 92660
1-800-870-3391

In the past I have read announcements of products that will scan in and store your business cards, but these products have never made sense to me. I want the information on business cards I get integrated into my rolodex. Recently, Pacific Crest introduced a product that goes beyond anything I have previously seen. CardGrabber is a combined hardware and software solution that lets you scan in business cards and integrate the listings into a general database which can then be used for telephone management as well as an address book.

Here is how this product, which runs under Windows, works: After you scan in business cards through a small scanner measuring 3.5" x 5" x 1.5" designed specifically for this purpose, the software sorts the information into fields that you have set up in the database. The accuracy of this product is truly amazing. I tested the scanner with an assortment of business cards and, for the most part, the software was able to recognize first name, last name, business phone number, residence phone number, and fax number as well as the normal items like city, state, zip code, address, and company name.

If this was all the product did, I would hardly think it worthy of inclusion in these pages, but that is merely the beginning. The software that comes with CardGrabber creates a sophisticated database that lets you import your existing phone and address list and incorporate these new entries into the list. The software is multidimensional. It has filters and categories so you can isolate any group of names you want. For instance, you can set up "Comdex '93" as a category and later retrieve all of the entries of contacts you made at that show. Or, you could ask for a listing of all of the names in the list that carry a Los Angeles address. You could even ask for the list to sort by first name if you remember a guy named Guy whom you can't find in the list.

Another feature of the software is the ability to manage your telephone dialing from the database. The phone management capabilities are powerful. From a pull-down menu, you can select to dial from a wide range of numbers that includes all the telephone number fields you have entered into the database, including fax numbers.

CardGrabber's printing capabilities are also powerful. You can design a phone directory in pretty much any format you choose. You can also have the directory print a copy of the business card. If you have made notes on the business card, they will be included in the graphic representation of the card. Likewise, you can elect to have the flip side of the card scanned for future reference. In the initial entry of data after scanning the card, you may include whatever information you want in a comment field. This will allow you to remind yourself of anything you need to remember about this entry.

CardGrabber is a relatively large program, installing from three 1.44MB disks, partly because it must recognize a wide range of fonts to be able to make sense out of a large variety of typefaces found on business cards. In addition to its size, this program has so many capabilities it needs a powerful system. You need at least an 80386 processor, hard drive with a minimum of 5MB of free space, and at least 2MB of RAM, with 4MB recommended.

I followed the simple installation procedure, but initially had trouble getting the scanner to work. I have a lot of different devices attached to my portable computer, so I figured that perhaps some of the peripherals would have to be disconnected. The scanner connects through the parallel port.

Unlike some other devices that communicate through the parallel port and let you attach your printer in daisy chain fashion to them, this scanner requires you to unplug your printer and hook directly to the parallel port. This design feature indicates that this scanner is not intended to be installed all the time—just when you have cards to input. The software does not require that the scanner be attached except when you input data from the scanner.

In any case, after having no luck doing this myself, I phoned technical support, which I am pleased to say was prompt, courteous, and knowledgeable. They asked me to do a number of things like remove lines from my config.sys file that might cause a conflict. In the end, they concluded that my portable—an AT&T Safari that is several years old—was too old to support this device. The story I get is that virtually any computer made in 1991 or later will work, but there are a few exceptions. If you are going to buy the CardGrabber, I recommend that you be sure you can try it out before you buy or that there is a return policy. Wonderful as the product is, it is useless if your computer will not support this hardware.

This product works equally well on a portable or a desktop unit, and is small enough to travel with your portable computer when you are on the go. On the other hand, the scanner does require an AC power source. The company tells me that a battery-operated version is in the works.

If you get lots of business cards that need to have their data transferred to a database, this may be the product for you. Excellent hardware, software, and technical support make this product a winner. Pacific Crest has not set a suggested retail price, knowing that nobody ever pays those prices. They tell me that the street prices seem to vary from about $340 all the way up to $399, so check around before you lay your money down. ■

Copyright © 1994 by Ed Kahn. All rights reserved.

CALIFORNIA
Computer
Show
& Sale

LOWEST PRICES
IN THE USA!

PC Compatibles · Hardware
· Software · Accessories

UPCOMING
SHOWS

OAKLAND COLISEUM
March 19 & 20, 1994
I-880 & Hegenberger Rd.
Oakland
2-DAY SHOW!

SANTA CLARA COUNTY FAIRGROUNDS
March 26, 1994
344 Tully Rd., San Jose

SAN MATEO EXPO CENTER
April 2, 1994
2495 South Delaware St., San Mateo

OAKLAND COLISEUM
April 9, 1994
I-880 & Hegenberger Rd., Oakland

ALAMEDA COUNTY FAIRGROUNDS
April 10, 1994
4501 Pleasanton Ave., Pleasanton

COW PALACE
April 16, 1994
Corner of Geneva
& Santos
San Francisco
2-DAY SHOW!

SANTA CLARA COUNTY FAIRGROUNDS
April 23, 1994
344 Tully Rd., San Jose

All Shows from
10a.m. to 4p.m.
Children under 12 FREE

FOR INFO. CALL
1-800-685-1400
BBS: 415-340-9370

FREE
ADMISSION
TO ALL SHOWS!

LAPTOPS

COMPUTER OF THE MONTH:

Sharp PC-8650 Active Matrix Color

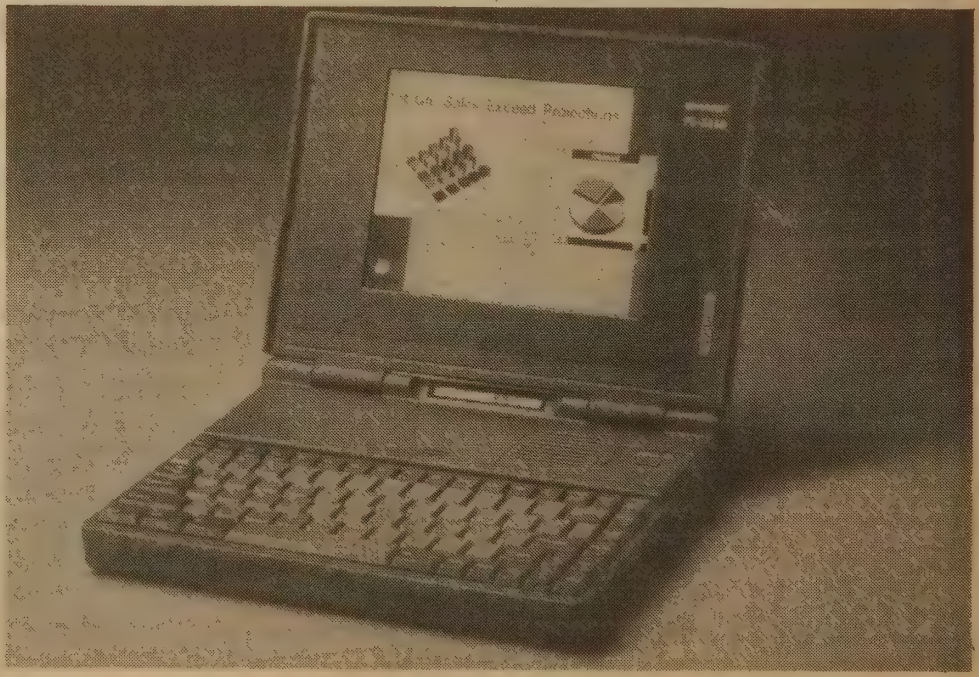
Active matrix color displays have now become almost commonplace in the portable market. This month I examine the Sharp PC-8650, which carries a retail price of $3299. This is a sleek portable with all the features you need, expansion capabilities, and a wide array of accessories.

The PC-8650 is a 486DX computer running at 33MHz. This is quite fast for a portable and comes close to what you might buy in a desktop unit. This laptop, which can run on either AC power or the included Nickel Metal Hydride battery pack, weighs only 6.4lbs. including the battery pack. Its footprint is only slightly larger than an 8.5" x 11" piece of paper, with a height of less than 2". In short, the PC-8650 will easily fit inside a briefcase. It comes standard with 4MB of RAM, expandable to either 8MB ($299) or 20MB. A 200MB hard drive and a high-density 3.5" floppy drive are standard equipment.

The active matrix color display offers a brilliantly clear image that refreshes as fast as you will need. In the early portable color displays, when you moved the mouse around, shadows were left behind and it took a little while for the screen to catch up to where you were. In this and other new displays, the problem has been eliminated. This screen measures 8.4" diagonally. It supports VGA resolution. If you connect an external monitor, you can increase the resolution up to 1024 x 768 using sixteen colors. You are also able to use both the internal display and an external monitor simultaneously.

The keyboard is well designed and has a good feel. I had no trouble typing on this machine. I am pleased to see that so many of the new portables now come with a keyboard design pioneered by Toshiba and others that place the keys where most users want them. Not long ago, companies tried to be innovative rather than adopting the design that users preferred.

This computer, like most of the new models introduced these days, is designed to run Windows. Sharp includes a trackball that attaches to the front of the machine. While this pointing device is certainly satisfactory while on the go, it simply doesn't do the job of a conventional mouse. Sharp, realizing this, has made provisions for users to attach a conventional mouse through the same port that an external keyboard uses. In order to use both an external keyboard and mouse, you will have to buy the keyboard/mouse adapter ($25). This device splits the port into



GREAT CUSTOMER SERVICE—WAREHOUSE PRICING

Authorized Dealer

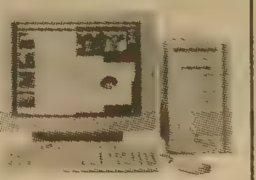
Apple® Macintosh Quadra® 605 8/160

Macintosh Quadra 605

- 25MHz
- 68LC040 Processor
- 4MB RAM
- 80MB Hard Drive
- Local Talk

$1165

Apple® Macintosh Quadra® 840AV



- 8/230
- 40MHz
- 68040 Processor
- 8MB RAM
- 230MB Hard Drive
- CD ROM Drive
- Ethernet

$3150

POWER PC COMING MARCH 14th

Call for Details

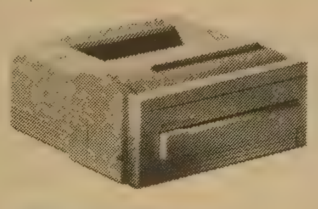
Apple® Macintosh Quadra® 605 4/80	$895
Apple® Macintosh Quadra® 605 8/160	1165
Apple® Macintosh Quadra® 610 8/230	1350
Apple® Macintosh Quadra® 610 8/230 w/CD	1975
Apple® Macintosh Quadra® 650	CALL
Apple® Macintosh Quadra® 650 8/230 w/CD	CALL
Apple® Macintosh Quadra® 800 8/230	2895
Apple® Macintosh Quadra® 840AV 8/230 w/CD	3150
Apple® Macintosh Quadra® 840AV 16/1GB w/CD	4600

PowerBook™ 170 4/40	CALL
PowerBook™ 180 4/80	2075
PowerBook™ 180C 4/80	2375
PowerBook Duo™ 230 4/80	CALL
PowerBook Duo™ 250/270	CALL

Apple® LaserWriter® Pro 630	1945
Apple® Portable Stylewriter® II	369
Apple® Stylewriter® II	270
Apple® NT Laser Printer	650
Apple® LaserWriter® Pro 630	1945
Apple® 16" monitor refurbished	775
New Apple® Color Plus Monitor	299
Apple® 14" RGB Display Tile & Swivel Base	CALL

Apple, the Apple logo, Macintosh, Stylewriter, LaserWriter, PowerBook and Macintosh Quadra are registered trademarks of Apple Computer, Inc. PowerBook Duo is a trademark of Apple Computers, Inc.

HEWLETT PACKARD
Authorized Dealer



HP LaserJet 4ML

The HP LaserJet 4ML printer has 4MB RAM, PostScript language and enhanced HP PCL5 with automatic language switching, microfine toner cartridge, 100-sheet multi-purpose tray, power cord and printer drivers

$CALL

HP DeskJet 1200C

- High quality resolution; 600x300 dpi text and 300 dpi color
- 35 Intelligent, 10 True Type
- 2MB, expandable to 26MB with SIMMs
- Print Speeds: 7ppm fast, 6ppm normal, 4 ppm HQ
- Color PCL5

$CALL

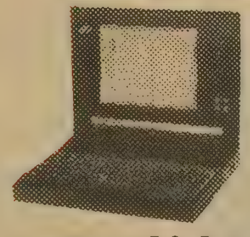
WE CARRY ALL HP PRODUCTS!

HP DeskJet 500, 300dpi, 3 yr warranty, 3ppm	$279
HP DeskJet 500C, 300dpi, 13 Scalable Fonts, 3ppm	375
HP DeskJet 550C, Dual Cartridges, True Black, 300dpi	465
HP DeskJet 1200C, 600x300dpi, Black, HP PCL 5, 2MB RAM	CALL
HP DeskWriter, 300dpi, System 6.05 Compatible, 3 yr warranty	279
HP DeskWriter C, 300dpi, 35 Scalable Typefaces, Built-in Spooler	375
HP DeskWriter 550C, 300dpi, 3ppm Black, Plainpaper	465
HP LaserJet 4, 600dpi, 45 Scalable Typefaces, 8ppm	1415
HP LaserJet Family 4L, 4ML, 4P, 4M, 4SI, 4SIMX, offer high performance, flexibility, and expandibility	CALL
HP ScanJet IIP, 300dpi, 8 Bit Grayscale, Live Previw	BEST PRICE
HP ScanJet IICX, Flatbed, 1200dpi, Enhanced Resolution, Color	CALL

We Carry All Hewlett Packard PC Products and Peripherals Including Vectras, Jet Direct Cards and Connectivity Products

IBM
Authorized Dealer

ThinkPads Notebooks *Quality at an affordable price!*



IBM ThinkPad™ 750/750C

The 750C features passive or active matrix color, and a 3 year warranty. Plus the TrackPoint II - a little device that looks like a pencil eraser but acts like a mouse.

ThinkPad 750
486-33MHz 170MB
$2960

ThinkPad 750C
Passive or Active Matrix Color
CALL

IBM ThinkPad 350 & 350C

Packed with features and value offer you an affordable, lightweight notebook. All included is a full-size keyboard, long lasting battery life and PCMCIA compatiblity.

ThinkPad 350
486SL-25MHz,
4MB RAM, 125MB Hard Disk
$1875

ThinkPad 350C
256 Colors,
486/25 4MB RAM, 120MB Hard Disk
$2475

VALUE POINTS For the Cost Conscious Buyer!

IBM PS/ValuePoint Minitower
4MB RAM, 1MB VRAM,
8 Slots, 6 Bays, No Drive
$1435

IBM PS/ValuePoint Desktop
4MB RAM, 120HD,
DOS, Windows, 5 Slots, 5 Bays
$1380

IBM PS/ValuePoint SpaceSaver 433DX
486SX-33MHz, 4MB RAM,
Basic Keybd
$1125

IBM PS/Valuepoint SpaceSaver
486SL-25MHz, 4MB RAM,
Basic Keybd, Super Low Price
$775

SPECIALS!

COMPAQ Compaq Contura's

3/25C 4/84	$1400
3/20 Model 84 w/2MB	800
3/25 4/60	900
3/25 4/120	1000
3/20 2/40	550
386SL/25 Model 60 w/4MB	$1150

Compaq LTE Lite's

386 25C 4/120	2000
386 25 4/84	1300

Compaq Systempro

LT 486 as low as	$1400

Compaq Monitors

14" Color VGA 420T	$175

Apple® PowerBooks®

170 2/80	$1400
170 4/80	1500
170 4/40	1050

Apple® Quadra®

950 8/230	$2400
700 4/80	1700
Apple® Centris® 4/80 w/E	899

Apple® Monitors

21" Two Page Mono	$450

Hewlett Packard

LaserJet IIID	$1100

IBM

Laser 4029 Model 10	$1000

Canon

BJ 10ex BubbleJet	$125

Radius

19" Two Page Display, B/W	$450

SuperMatch

20" Color Montior	$900

Toshiba

T11800 2/60	$550

COMPAQ
EPSON
NEC
OKIDATA
TOSHIBA
Authorized Dealer

ComputerLand of Hayward

Hours:
M-F 8:30-6
Sat 11-5

BUSINESS TO BUSINESS • • PERSON TO PERSON

22540 FOOTHILL BLVD. HAYWARD, CA 94541

Tel: 510/538-8080

Prices reflect cash discount

Not responsible for typographical errors.
Prices subject to change without notice.

We know your **NOVELL** training is important to you.

New Santa Rosa location!!

FREE...
CNE Orientations
MAR 9th in SF
MAR 30th in SJ

Space is limited!!!
1-800-729-9995

And we are listening...

YOU ASKED FOR:	AND CLARITY TECHNOLOGIES HEARD YOU:
☐ The very best instructors...	✓ Clarity instructors are highly rated Certified NetWare Instructors with *extensive field experience.*
☐ Quality, customer service...	✓ Clarity provides *each student* with their own Education Counselor to guide and support them in achieving their individual training needs.
☐ CNE, ECNE, and CNA programs...	✓ Clarity *offers all* Certified NetWare Engineer, Enterprise Certified NetWare Engineer, and Certified NetWare Administrator programs.
☐ Daytime, evening, and weekend classes...	✓ Clarity was *the first NAEC* in the Bay Area to offer the CNEvening. Now offering *Weekend CNE* programs!!
☐ State-of-the-art equipment and facilities...	✓ Clarity offers the highest quality training facilities including *one PC per student, separate classrooms and labs.*
☐ Convenient financing options...	✓ Clarity *now offers* financing for your CNE, ECNE, and CNA training.

Interested in NetWare Programming??
Clarity Technologies now offers the Novell Developer Education courses... call for details.
1-800-729-9995

CLARITY
TECHNOLOGIES
Specializing in Network Education

Novell Authorized Education Center

LANTASTIC NETWORKS ONLY!

- CERTIFIED ARTISOFT FIVE STAR INSTALLER & DEALER
- ON-SITE INSTALLATION, SERVICE, TRAINING, SUPPORT & TROUBLESHOOTING ANYWHERE IN THE BAY AREA
- UNLIMITED TELEPHONE SUPPORT ON ALL INSTALLED NETWORK PRODUCTS
- AVAILABLE FOR *Windows* & *DOS*. MINIMAL RAM OVERHEAD. E-MAIL
- SHARE: COMPUTERS (DESKTOP & NOTEBOOK), PRINTERS, CD-ROM

A. JACKSON & ASSOCIATES
CONNECTIVITY SPECIALISTS
(415) 457-8207 FAX (415) 457-8219

ARTISOFT AUTHORIZED RESELLER

PC MAGAZINE EDITORS' CHOICE May 25, 1993 LANtastic 5.0

two ports, one designed for the mouse and the other for the keyboard. This is a good arrangement as some computers make you choose between an external keyboard and an external mouse. If you use the machine in a single location much of the time, you will want to buy this gadget and get both a mouse and keyboard of your choice.

The power management software provided by Sharp allows you to conserve power and get up to about two hours of use out of a battery charge. Additional battery packs ($175) are available. The included AC adapter will charge the battery pack in about two hours. This is a reasonable amount of time. While some machines take considerably longer to charge a battery than it takes to drain it, Sharp is on the good end of the spectrum.

A single serial and parallel port are provided on the back of the unit. Although one serial port often seems like not quite enough, on this machine it is adequate. First, the ability to plug in a mouse to the keyboard port removes one of the major uses of a parallel port. Secondly, a PCMCIA Type II slot is included. This slot can take a wide range of peripherals including network adapters, fax/modems, and memory cards. Third, Sharp offers a 14,400bps internal fax/modem ($425). The result is that you can use a wide variety of external devices and the serial port will still be available.

More and more users are buying portables as their only computer these days. In the office, they use an external monitor, keyboard, and mouse, and when they are on the go, they disconnect everything and hit the road. When they return to the number one location, they have to reconnect everything. Sharp has addressed this problem by offering a port replicator ($149). This device plugs into a 200-pin expansion port and replicates all of the ports found on the back of the machine. This means that when you are ready to leave, you simply unplug one cable and the job is done. On returning, simply plug in the cable and you are back in business.

A one-year warranty covers this machine. Sharp's technical support line answered my call promptly and was able to answer the questions I had. If you are ready to move up to color on your portable, have a look at the Sharp PC-8650. ■

Copyright © 1994 by Ed Kahn. All rights reserved.

RESOURCES:

Sharp PC-8650,
$3299
Sharp Electronics Corp.
Sharp Plaza
Mahwah, NJ 07430-2135
1-800-BE-SHARP

We Deliver TOTAL PACKAGE SOLUTIONS

MICROSOFT WINDOWS READY-TO-RUN

All Systems Feature

- Microsoft DOS 6.2
- Windows For Workgroups
- Microsoft Works 3.0
- Microsoft Money
- Microsoft Entertainment Pack
- Microsoft Mouse
- FCC Class B, ULC
- ONE YEAR ON-SITE Warranty

CERTIFICATION A+ PROGRAM

PENTIUM EISA/PCI 60MHz PC $ 2795
PENTIUM EISA/PCI 66MHz PC $ 2995

with *Intel Mercury Chipset*

pentium™ PROCESSOR

- **8 MB RAM, Expandable up to 96 MB**
- **420MB IDE Harddisk**
- **PCI IDE & Windows Accelerator**
- 256KB Cache, Upgradeable up to 512Kb
- 1.2MB 5 1/4" & 1.44MB 3 1/2" Floppy Drive
- IDE I/O with 2 Serial, 1 Parallel, 1 Game Port
- 1 megabyte PCI Video Accelerator
- Tower Case with Dual Fan
- 230 Watts Power Supply

ALL SYSTEMS INCLUDES
Microsoft DOS 6.2
Microsoft Entertainment Pack
Windows For Workgroups
Microsoft Mouse
Microsoft Works 3.0
Microsoft Money
FCC Class B, UL
1 YEAR ON-SITE Warranty

486DX/33 Local Bus System $ 966
486DX/2 50 Local Bus System $ 996
486DX/2 66 Local Bus System $1146

- 4 MB RAM, Expandable up to 32 Megabytes
- 128KB Cache, Expandable up to 256KB
- 5 1/4" 1.2MB & 3 1/2" 1.44MB Floppy Drive
- 320MB IDE Harddisk
- 1024KB Vesa Local Bus SVGA Windows Accelerator
- Vesa Local Bus IDE Controller with Fast Buffer I/O
- 2 Serial, 1 Parallel, 1 Game Port
- Microsoft Serial Mouse
- 101 Key Enhanced Keyboard
- Tower or Desktop Chassis
- 200W Power Supply

486SX/25 System $ 749
486SX/33 System $ 775

- 4 MB RAM, Expandable up to 32 Megabytes
- 5 1/4" 1.2MB & 3 1/2" 1.44MB Floppy Drive
- 210MB IDE Harddisk
- 1024KB SVGA Windows Accelerator
- IDE Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Key Enhanced Keyboard
- Tower or Desktop Chassis
- 200W Power Supply

ALL SYSTMS INCLUDES
Microsoft DOS 6.2
Microsoft Entertainment Pack
Windows For Workgroups
Microsoft Mouse
Microsoft Works 3.0
Microsoft Money
FCC Class B, UL
ONE YEAR ON-SITE Warranty

486SX/25 MULTIMEDIA MPC II $ 959

- 4 MB RAM, Expandable up to 32 Megabytes
- 5 1/4" 1.2MB & 3 1/2" 1.44MB Floppy Drive
- 210MB IDE Harddisk
- Microsoft Sound System 2.0
- **Dual Speed CD-ROM Drive**
- **Microsoft Bookshelf Seven Titles**
- **Microsoft Microphones & Stereo Speakers**
- 1024KB SVGA Windows Accelerator
- IDE Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Key Enhanced Keyboard
- Tower or Desktop Chassis
- 200W Power Supply

Photo CD

COMPACT disc DIGITAL STEREO

MultiMedia MPC-II Kit

MS Sound System 2.0
Dual Speed CD-ROM (MPC-II)
16-bit Microsoft Sound Card
Stereo Speaker Set / Microphones
Microsoft Bookshelf
with 7 Multimedia Titles **$ 275**

Mother Boards

486 SX/DX/2 0K/No CPU	$ 79
IBM SLC2 66MHz	$ call
IBM BL2 25/75 MHz	$ 599
PENTIUM EISA, PCI, ISA	
60MHz w/256K Cache/CPU	$1795
66MHz.w/256KB Cache/CPU	$1995

IDE Harddisk

210 Megabytes	$205
260 Megabytes	$215
340 Megabytes	$245
420 Megabytes	$328
540 Megabytes	$449

Super VGA Monitors

14" .39 DPI 1024x768	$185
14" .28 DPI 1024x768	$220
14" .28 Non-Int 1024x768	$235
15" .28 Non-int 1280x1024	$340

Printers

HP Laserjet 4SI	$ Call
HP Laserjet 4	$1359
HP Laserjet 4P	$ 969
HP Laserjet 4L	$ 635
HP Deskjet 1200C Color Printer	$1375

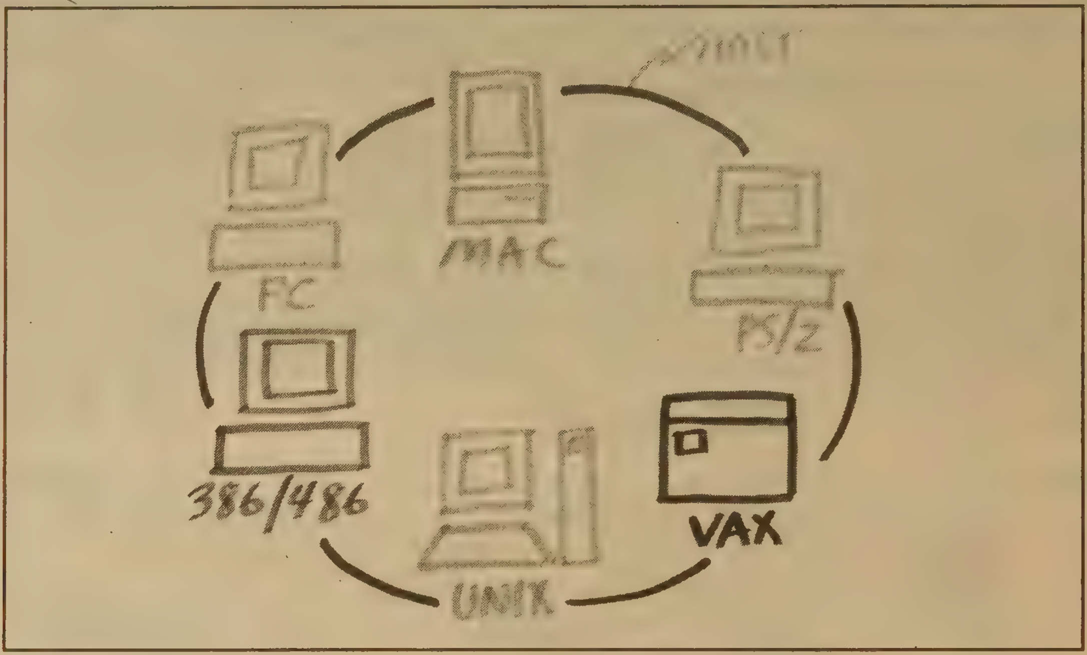
AMERISEL

46321 Landing Parkway Fremont CA 94538

Tel (510) 249-9500
Fax (510) 226-9393
Call For Products Not Listed.

Prices & Configurations Subject to Change Without any notices
Not responsible for misprints & Type Errors
Net Terms upon Credit Approval

NOVELL NETWARE 4.0



Choose Novell NetWare, and you can choose all of these.

The power to choose. With NetWare, Novell gives you the most powerful combination of network performance, security, functionality and system reliability available. Plus, as your computing needs expand, the network will grow with you. Giving you to connect to new environments and millions of NetWare users worldwide. We have extensive experience in consulting, LAN design, wide area connectivity and multiplatform integration, troubleshooting and support. We are a Novell Platinum Dealer - proof of our technical expertise. With us, you have direct access to our in-house CNE's, our qualified installers and technicians.

Netware 4.01

- NDS (NetWare Directory Service)
- Enhanced Performance
- Low Cost, High Capacity Storage
- File Compression
- Rewritable Optical disk Storage

FOR NETWORK CONSULTING, DESIGN, AND QUOTE PLEASE CALL
415 394 8888 EXT 233

SAN FRANCISCO ONLY

Computown San Francisco Specializes in Repairing and Upgrading Apple® Macintosh® Computers and Peripherals

CAN YOU FIX ME?

Have you ever tried to call your service provider and try to find out what the status is with your computer? And fall in to that voicemail pitfall. Then wait 10 minutes just to be told I don't know? Can I call you back later? At Computown San Francisco, we do not believe in this philosophy! With the help of our NSX system, we can instantly provide up to date information on any repair at our Repair Center

We believe in satisfying the anticipation and excitement of getting to play with your new modem or being able to use more applications by installing more memory. We will perform these upgrades and more while you wait.

Ask about our
MEMORY
MODEM
HARD DRIVE
While u wait
UPGRADE

CALL
415
982
TECH
8324

We are authorized Service Center for

Authorized Dealer
IBM Business Partner
HEWLETT PACKARD
EPSON
SONY
AST Authorized System Reseller
COMPAQ
TOSHIBA

Apple, the Apple logo are trademarks of Apple Computer, Inc. Macintosh is registered trademark of Apple Computer, Inc. Computown is not responsible for typographical errors. Specifications are subject to change without notice. Please call store for more details.

Computown
"Let's Compute!"

San Francisco

RETAIL SALES
756 Market Street
Mon-Fri 9-7
Sat & Sun 10-4
Tel (415) 956 8696
Fax (415) 956 5548
SERVICE CENTER
Tel (415) 982 TECH(8324)

CORPORATE SALES
760 Market Street
2nd Floor
Mon-Fri 8-6, Sat 10-4
Tel (415) 956 1777
Fax (415) 989 8696

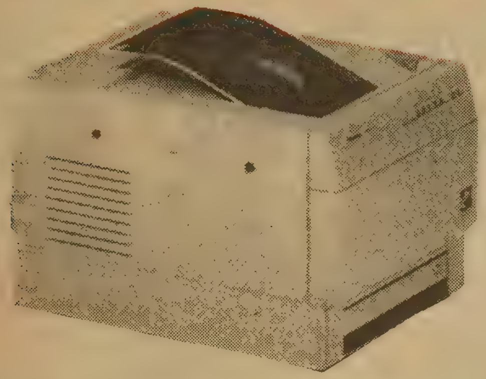
COMPUTOWN IS PROUD TO BE YOUR TEKTRONIX SOURCE IN THE BAY AREA!

Tektronix / COLOR PRINTERS

Visit our Color Demo Lab in the heart of San Francisco

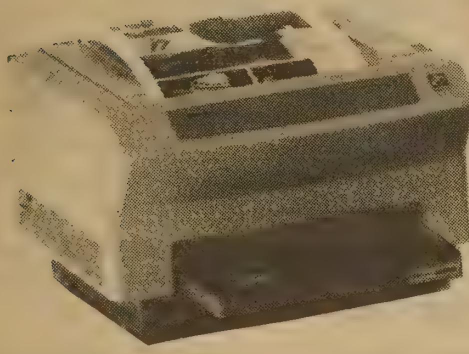
We carry all the supplies for your color printing needs.

FOR MORE INFORMATION, CONTACT ANDREW WIENKE
(415) 394-8888 x#245 or (415) 956 TOWN (8696)



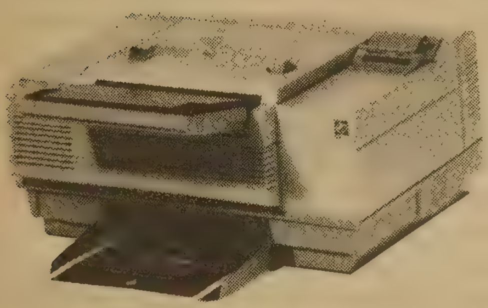
NEW TEKTRONIX PHASER 220 THERMAL WAX PRINTER

- 600 X 300 dpi
- Adobe PostScript™ Level 2 with HP-GL emulation
- AMD 29000 RISC processor
- 220i: 10 MB expandable to 14 MB
- 220e: 8 MB expandable to 14 MB
- 220e: 17 resident fonts, expandable to 39
- 220i: 39 resident fonts, SCSI external port allows hard disk drive storage of downloadable fonts
- AppleTalk, Parallel, RS-232 serial, optional EtherTalk™ on 200i, TCP/IP; all ports simultaneously active
- PANTONE Color simulatons, CIE, AMD TekColor based color matching



NEW TEKTRONIX PHASER 480 B SIZE DYE-SUB PRINTER

- Continuous-tone 300 dpi dye sublimation
- Adobe PostScript™ Level 2
- 24 MHz AMD 29000 RISC Processor
- 32 MB expandable to 64 MB (16 MB increments)
- Photoshop Plug-in Export for faster printing speeds
- Maximum print area 11.9 x 17.2" full bleed
- 2.3 minutes letter size paper print speed; 3.2 minutes Tabloid extra
- 39 resident fonts, SCSI external port allows hard disk drive storage of downable fonts
- AppleTalk, Parallel, RS-232 serial, optional EtherTalk™, TCP/IP; all ports simultaneously active; SCSI port for external HD for fonts
- TekColor Dynamic Correction. PANTONE Solid Color simulations, CIE international color standards, and support for EFIColor and ColorSync color management



TEKTRONIX PHASER 300i PHASE CHANGE PRINTER

- 300 dpi plain paper Phase-change ink jet
- Adobe PostScript™ Level 2 with HP-GL 7475A plotter emulation
- 24 MHz AMD 29000 RISC Processor
- 10 MB expandable to 22 MB
- 4 x 6" to 12 x 18" media sizes
- Maximum print area 11.6 x 17.5" full bleed
- 39 resident fonts, SCSI external port allows hard disk drive storage of downable fonts
- AppleTalk, Parallel, RS-232 serial, optional EtherTalk™, TCP/IP; all ports simultaneously active; SCSI port for external HD for fonts
- PANTONE Color simulatons, CIE, AMD TekColor based color matching

TEKTRONIX PHASER IISDX DYE SUBLIMATION PRINTER

- Continuous-tone 300 dpi plain paper
- Adobe PostScript™ Level 2
- 24 MHz AMD 29000 RISC Processor
- 16 MB expandable to 64 MB
- Photoshop Plug-in Export for faster printing speeds
- Low cost per page compared to competition
- 3.1 minutes letter size paper print speed
- 39 resident fonts, SCSI external port allows hard disk drive storage of downable fonts
- AppleTalk, Parallel, RS-232 serial, optional EtherTalk™, TCP/IP; all ports simultaneously active; SCSI port for external HD for fonts
- PANTONE Color simulatons, CIE, AMD TekColor based color matching

Mountain View
2444-A
Old Middlefield Way
Mon-Fri 8-6
Sat 11-4
Tel (415) 962 8696
Fax (415) 969 8696

Pleasant Hill
1525 Contra Costa Blvd.
Mon-Fri 9-6, Sat 10-4
Tel (510) 682 8696
Fax (510) 689 8696

San Jose
780 Montague Expressway/O'Toole
Mon-Fri 8-6,
Sat 11-4
Tel (408) 275 8696
Fax (408) 297 8696

CALL FOR EXPORT INQUIRIES

COMPUTOWN'S WORLD OF TEKTRONIX

Los Angeles Reacts To The Earthquake

New Telecommuting Opportunities To Help Relieve The Strain On LA's Damaged Freeway System

BY ROBERT MOSKOWITZ

At 4:31 am, on January 17, 1994, southern California woke up to a 6.7 earthquake that—aside from its destructive and killing power—has led to a grand experiment in practical telecommuting.

Almost immediately, telecommuting experts, in-house telecommuting coordinators, and government telecommuting planners began looking for opportunities to expand the use of telecommuting to take some of the strain off LA's heavily damaged freeway system.

> "The assumption that, because the **earthquake** has **disrupted the freeways**, employers will change their long-running **objections to telecommuting** is a very weak one."
>
> *—Wally Siembab, Director, Telecommunications for Clean Air*

At HealthNet, for example, Karen Carrol noticed that dozens of the claims processors who worked for her commuted from the other side of the freeway bridges knocked down between LA and the Santa Clarita Valley. At her instigation, HealthNet expanded its presence at the telecommuting center in Lancaster and began making plans to open its own satellite center in Valencia—eliminating commutes for about one hundred employees. Other companies began filling up spaces in previously underutilized telecommuting centers in Valencia, Santa Clarita, and Antelope Valley. In fact, California State University at Northridge, which took a pretty bad beating from the quake, set up telecommuting facilities in some of its empty dorm rooms.

Susan Herman, manager of the City's telecommunications department, began making plans to convert some fifteen thousand city employees into telecommuters. And she formed a group called The Telecommuting Partnership, which quickly cobbled together a proposal to Ron Brown, US Secretary of Commerce, who within days provided funding in the amount of $1.5 million through the National Telecommunications and Information Administration! This was supplemented with another $1 million scraped together by CALTRANS from existing programs related to telecommuting, most of which have been discussed in this space before. There is also some $3 million pouring in from FEMA, earmarked mostly for transportation demand management, a portion of which may be allocated toward telecommuting expansion. The Telecommuting Partnership includes the City and County of Los Angeles, CALTRANS, GTE and Pacific Bell, The RAND Corporation, and the Center for the New West.

Under Herman's direction, the Partnership is scrambling to open some of the following as rapidly as possible:

- New telecommuting centers in areas relatively isolated by the earthquake, including Antelope Valley, Northridge, Santa Clarita, Sylmar, Valencia, Santa Monica, South Central Los Angeles, East Los Angeles, and West Los Angeles (convenient east-west travel in the Los Angeles Basin has been virtually eliminated by the destruction of three overpasses along the Santa Monica Freeway, Route 10).
- Systems to encourage and support telecommuting from home by workers who normally commute over the region's disabled web of freeways. This includes an 800-number hotline (1-800-6-INFOHighWay [1-800-646-3649]), which is intended to be a clearinghouse of telecommuting resource information, complete with "help desk" resources to get new telecommuters operational with computers, networks, modems, and the like.
- Other programs to be attempted include: neighborhood telecommuting training seminars, a computerized database of information and referrals to technical information on hardware and software, creation of telecommuting information and educational materials, and contacts with employers to encourage the proliferation of telecommuting.

THE REALITY CHECK

While all this sounds commendable, other experts in the LA community feel there may be more sound and fury in this program than actual progress toward bringing employees into the world of telecommuting.

Wally Siembab, a telecommunications expert who is director of the Telecommunications for Clean Air project, the nation's only telecommuter "facilities exchange" program, feels very sad that certain advocates of telecommuting came racing into the post-earthquake LA situation with all these resources and with assumptions about telecommuting that just have not been realized.

But the handwriting was on the wall from the very beginning. At Transportation Management Administration meetings, for example, large employers in the LA region devoted considerable energy to discussing rail and bus transit plans to help move their

Copyright © 1994 by Robert Moskowitz. All rights reserved. Robert Moskowitz is a business consultant based in Woodland Hills, CA, who writes frequently on productivity, office automation, and technology.

• • • Count On Us For The Best Prices And Service • • •

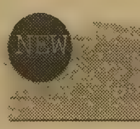
IBM®

VALUEPOINT 486DX33 4/120 MB SVGA/VLB	**$1349**
VALUEPOINT 486DX2/66 4/ no. hd. SVGA/VLB	**$1699**
SVGA monitor .28/ 1024 N.I.	**$379**
Thinkpad 750C 4/170	BEST
Thinkpad 750C 4/340	CALL

90 days same as cash

Save $150 on Qualifying Apple Macintosh Quadra Computers

Authorized Reseller



Macintosh PowerBook
180c 4/80
4MB RAM, 80 MB HD
$2479*

Apple LaserWriter
Select 320
300 dpi laser printer
CALL

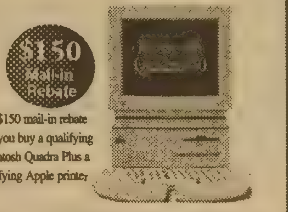
PowerBook **145B** 4/80	**Best**
PowerBook **165** 4/80	**Call**
PowerBook **180** 4/80	**Call**
PowerBook **Duo 270** 4/240	**Call**

$150
Mail-in
Rebate

StyleWriter II printer, Apple 14" COLOR PLUS monitor, 105-key **keyboard, Quadra 605 8/160**
8 MB RAM, 160 MB hard drive
$1849* less
$150 mail-in rebate
after rebate $1699

$150
Mail-in
Rebate

StyleWriter II printer, Apple 14" COLOR PLUS monitor, 105-key **keyboard, Quadra 605 4/80**
4MB RAM, 80 MB hard drive
$1548* less
$150 mail-in rebate
after rebate $1398

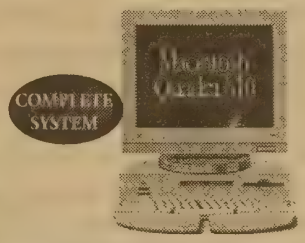


Get $150 mail-in rebate when you buy a qualifying Macintosh Quadra Plus a qualifying Apple printer

Apple 14" COLOR PLUS monitor 105-key **keyboard** & Apple® Macintosh **Quadra™ 650 8/230**
68040 CPU, 33 MHz, math coprocessor
8 MB RAM, 230 MB hard drive
before rebate $2369

BUNDLE w/
16" DISPLAY

Apple **16" COLOR** monitor 105-key **keyboard** & Macintosh **Quadra 840AV 8/230 CD**
68040 CPU, math coprocessor, DSP
8 MB RAM, 230 MB HD w/ CD drive
CALL



Apple 14" **COLOR PLUS** monitor 105-key **keyboard** & Apple® Macintosh **Quadra™610 8/230**
68040 CPU, 25 MHz, math coprocessor
8 MB RAM, 230 MB hard drive
$2079*

COMPLETE
SYSTEM
Macintosh
Quadra 610

Apple 14" **COLOR PLUS** monitor 105-key **keyboard** & Macintosh **Quadra 610 8/160**
68040 CPU, 25 MHz, 32 bit data bus
8 MB RAM, 160 MB hard drive
$1729*

COMPLETE
SYSTEM
Macintosh
Quadra

Apple 14" **COLOR PLUS** monitor 105-key **keyboard** & Macintosh **Quadra 660AV 8/230 CD**
68040 CPU, math coprocessor, DSP
8 MB RAM, 230 MB HD w/ CD drive
$2389*

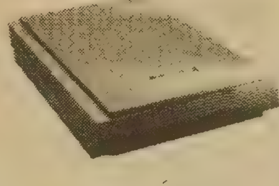
INT. HD DRIVES ***
160MB/230MB/500MB
$219*/$259*/$599*

EXT. SYQUEST DRIVES
44MB/88MB/105MB
$399*/$499*/$499*

APPLE CD DRIVES***
EXT 300/ INT 300i
$289*/399*

APPLE MULTIMEDIA KIT/ POWERCD
$599*/389*

HEWLETT PACKARD



HP ScanJet IIcx $999
400 dpi color scanner

ScanJet IIP	**$749**
DeskJet/DeskWriter Portable 310	**$299**
DeskJet 500/DeskWriter *300 dpi, ink jet*	**$299**
DeskJet 500C/ DeskWriter C *300dpi, color ink jet*	**$399**
DeskJet/DeskWriter 550 C *300 dpi, color inkjet*	**$499**
LaserJet 4ML *300 dpi, 4pmm, 4MB, laser*	**$1049**
LaserJet 4MP *600 dpi, 4 pmm, 6MB, laser*	**$1399**
LaserJet 4M *600 dpi, 8 pmm, 6MB, laser*	**$1999**
DeskJet 1200c *300 dpi, 7ppm, color inkjet*	**$1399**
DeskJet 1200c/ PostScript	**$1949**
LaserJet 4L	**$699**
LaserJet 4P *4 pmm, 2 MB, laser*	**$999**
LaserJet 4 *600 dpi, 8 pmm, 2MB, laser*	**$1499**
LaserJet 4si	**$2999**

Texas Instruments NoteBook Computers and Printers

TEXAS INSTRUMENTS

WIN SX 25 (4/120 MB mono)	**$1799**
WIN DX 25 (4/120 MB mono)	BEST
WIN DX 2/50 (4/200 MB mono)	**$2499**
WIN SX 25 (4/120 MB color)	**$2049**
WIN DX 2/50 (4/200 MB, Dual scan color)	**$3149**
WIN DX 2/50 (4/200 MB active matrix)	**$3849**

MicroMarc	$269**
MicroWriter	$529
MicroWriter PS23	$699
MicroWriter PS65	$959
MicroLaser Pro 600 PS23	$1399
MicroLaser Pro 600 PS65	$1569

** After rebate ends 3/31/94

Canon NoteBook Computers and Printers

Canon

Innova NoteJet w/ built-in printer

486 SLC 25 4/135 Mb mono	**$2449**
486 SLC 25 4/180 Mb mono	**$2749**

Dual Scan Color

486 SX 25 4/120 MB	**$2849**
486 SX 25 4/200 MB	**$3199**

PRINTERS

LBP-860 600dpi, laser	**$1349**
BJ10ex portable w/ sheet feeder	$259
BJ200E	$299
BJ230 (wide)	$399
LBP-430 (300dpi, 4ppm)	$589
BJ-600 Color 300 dpi	$589

Other Store locations:

Sacramento:
1870 Fulton Ave.
(916) 972-7678
(M-F 10-7 SAT 11-5)

Walnut Creek:
1601 North Main St.
(510) 256-8828
(M-F 10-7 SAT 11-5)

* Prices reflect cash discounts

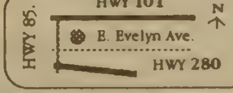
San Francisco
5000 Geary Blvd.
(415) 387-7272
(M-F 10:00-7:00, SAT 11-5)

14th St.
Geary Blvd.

THE COMPUTER STORE
SINCE 1986
MOUNTAIN VIEW • SACRAMENTO
SAN FRANCISCO • WALNUT CREEK

Offers expire 4/3/94

MOUNTAIN VIEW
67 East Evelyn Ave.
(415) 968-3466
(M-F 9:30-6:30, SAT closed)



San Francisco
217 Sansome St.
(415) 421-1801
(M-F 9:00-6:00, SAT 11-5)

California St.
Montgomery St.
Sansome St.
Market St.

*** Mounting kits, cables, installation are not included. • 105 key keyboard is 3rd party keyboard. "90 days as same as cash" subject to credit approval. • Apple, the Apple logo, Macintosh are the registered trademarks of Apple Computer, Inc. The Macintosh PowerBook, Macintosh Quadra, StyleWriter are the trademarks of Apple Computers, Inc. IBM are registered trademarks of International Business Machines Corp. All brands and product names are the trademarks of their respective companies. Prices and stock availability subject to change without notice. Not responsible for typographical errors. Apple rebate good while stock last and ends 3/31/94

Don't miss out on your copy of MICROTIMES!

MICROTIMES is published 14 times a year.
Look for us on the following dates.

Cover Date:	*Cover Story:*
February 7	Consumer Computing
March 7	Data Security
April 4	Digital Highways
May 2	CD-ROMs
May 30	10th Anniversary
June 27	Multimedia
July 25	Emerging Platforms
August 22	Movie Graphics
September 19	Venture Capital
October 17	Computer Publishing
November 14	Global Market
November 30	Holiday Gift Guide
December 13	Buyers Guide

For a distribution point
near you call
510-934-3700

MICROTIMES
MICROTIMES
DOUG
The '90s Entrepreneur

workers from home to job. When telecommuting was raised as a possible alternative, these employers gave lip service only, claiming that top management doesn't like it, or that they already had about as many telecommuters as they were likely to get. One representative even admitted that his company likes to see people working in the office, not at home.

In addition, the bulk of the interest in new satellite-center telecommuting capacity came from a few employers who were already heavy users of the existing telecommuting satellite-centers, including GTE, PacBell, and HealthNet.

"The assumption that, because the earthquake has disrupted the freeways, employers will change their long-running objections to telecommuting is a very weak one," Siembab asserts. "I'd like to see some proof there is a demand for it, and right now no one can offer that proof."

The bottom line is that within the first three weeks after the earthquake, only a relatively few new telecommuters were added, that the 800 number Telecommuting Information Clearinghouse is ringing only infrequently, and that very little of the money appears headed toward cost-effective programs and facilities that will be well planned and heavily supported in the long run.

Siembab may be unnecessarily gloomy about the Partnership's prospects, but his ideas are supported by what actually happened in a similar situation after the Loma Prieta earthquake near San Francisco. When the Oakland Bay Bridge went down, there was a high level of activity to bring more telecommuters online. But as soon as the bridge opened up again, virtually all of these telecommuters went back to their cars.

"I'm very hopeful," says Siembab, "that this earthquake will be the stimulus needed to increase the rate at which telecommuting is adopted by significant numbers of employers and their employees. However, I believe we should proceed a little more cautiously than we seem to be doing."

As the evidence rolls in—one way or the other—over the next few months and years, you'll hear about it, as well as about its lessons and its implications, right here in this space.

SOME MODEST SUGGESTIONS

Regardless of how successful the Telecommuting Partnership's program may turn out to be, there is some very innovative thinking going on in some parts of the earthquake damaged region. An article in the *Los Angeles Times* by Michael Schrage, part of his ongoing series on Innovation, ran just ten days after the 6.7 earthquake. After chiding the local and state administrations for a lack of planning to make use of telecommuting options so profound it seemed based on assumptions that "commuters would get up at 4:30 in the morning so they could all get to work by 9," Schrage proposes that government:

- "Identify the fifteen or twenty companies that generate the most traffic," and encourage them to support many of their employees as telecommuters one or two days a week.
- Enact compulsory telecommuting for certain groups of workers.
- Compel PacBell and GTE to cut local daytime phone rates by 50–75% in areas impacted by the earthquake, and also to help large employers offer voice mail and call-forwarding more easily and cheaply to telecommuters at home.
- Slap "a special surtax…on mobile cellular phone calls to discourage driving. Calls that remain within a single cell would merit discounts."

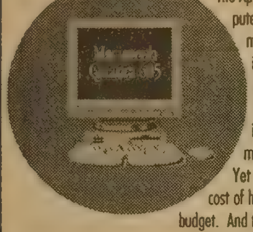
Whether or not you agree with any of these suggestions, it's clear that a good many laws, regulations, and market incentives can be recast in the aftermath of the earthquake to provide stronger reasons for employers to support telecommuting and for

Apple
Power

Don't Miss This Opportunity!

**No Payment, No Interest for 90 Days

price
drop



The Apple® Macintosh Quadra® 605 computer is the most affordable high-performance desktop system, making it an ideal multipurpose personal computer for business and professional users. Like all Macintosh Quadra computers, it puts the highest levels of performance and flexibility at your fingertips. Yet the Macintosh Quadra 605 brings the cost of high performance down to almost any budget. And the new slim design saves desk space.

B U N D L E

Apple® Macintosh Quadra®605

M1821LL/A

- 25-MHz 68LC040 processor
- **4MB RAM**, expandable to 36MB
- **80MB** internal hard disk drive

Monitor & Keyboard extra

and

Apple® StyleWriter® II

- 360 dot per inch
- **39 scalable TrueType™ fonts**
- Grayscale™ driver software for gray-scale printing
- Multipurpose tray holds up to 100 sheets of paper

$150 Rebate*

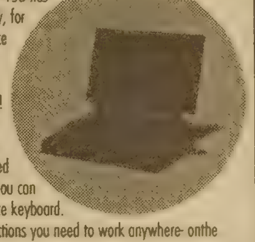
only **$999.97***

after $150 mail-in rebate & with purchase of M1821LL/A

Close Out Sale

Panasonic Sr. Partner	Laptop computer	$399.00
Panasonic Executive Partner	Laptop computer	$499.00
19 inch Mono Monitor	w/video card from Mass Micro for Macintosh II's	$850.00
15 inch Mono Monitor	Qume Display monitor	$399.00
Abaton Color Scanner	(300DPI)	$499.00
Howtek Color Sacnner	Scan Master II (300 DPI)	$499.00
Mirus Film Recorder		$2200.00
Montage Film Recorder	(without video board)	$1800.00
Toshiba T1000		$299.99
Toshiba T1000XE	1MB RAM • 20MB HD• Back Lit LCD Display • 10 MHz	$595.00
Toshiba T3200SX	1MB RAM • 40MB HD	$1500.00
Toshiba 2200SX	2MB RAM • 60MB HD • 386/20 MHz • 1.44 Floppy	$1200.00
Toshiba 5200	2MB RAM • 40MB HD • 386/20 MHz • 1.44 Floppy	$1700.00
AST PREM. EXEC. Laptop	386/20 MHz • 20MB HD • 1.44 Floppy • Case	$850.00

All Closeout items sold as is no return nor exchange.



This Apple® PowerBook® 145B has a bright full-page-width display, for solid Macintosh® performance and flexibility. A superior choice for high-performance, low-cost notebook domputing! The Powerbook 145B gives you a remarkably comforable way to work with an integrated trackball and palm rest, and you can quickly adjust the standard-size keyboard. Also, you'll find all the connections you need to work anywhere- onthe road, in a conference room, or at your desk.

Apple® PowerBook®145B

- 25MHz 68030 processor
- A superior choice for high-performance, low-cost notebook computing!
- **4MB RAM & 40MB HD**

Steal of the Month

$999.99

Limited quantaties. Sale subject to stock on hand.

Apple® PowerBook®165

- 33MHz68030 microprocessor
- 16 levels of gray in a 10-in. screen
- **4MB RAM & 160MB HD**
- Built-in Display adapter (up to 16"Color)

Best Buy

$1999.99

Apple® PowerBook® 180C

- 33MHz68030 microprocessor
- Active-matrix color desplay
- **4MB RAM & 80MB HD**

$2499.00

Apple® Macintosh Quadra® 610

- 25-MHz 68040 processor with PMMU
- 68882 math coprocessor
- **8MB RAM,** expandalbe to 68MB
- **230MB** internal hard disk drive

New In Stock

Monitor & Keyboard extra

$1629.99

Apple® Macintosh Quadra® 660AV

- **8MB RAM & 80 MB HD**
- 25-MHz 68040 processor
- 55-MHz digital signal processor

Steal of the Month

Monitor & Keyboard extra

$1998.99

Apple® Personal LaserWriter® NTR

- 300 DPI resolution
- **Exceptionally fast first-page output**
- 35 fornts for printing in any size
- With high-performance RISC processor, prints documents up to five times faster than the Personal LaserWriter NT

$799.99

Authorized Dealer

Apple® LaserWriter® Select 360

- 600 DPI resolution
- **10 pages per minute**
- 64 scalable TrueType™ and PostScript fornts
- 16MHz processor speed

$1499.99

Apple® Personal LaserWriter® 320

- 300 DPI resolution
- **35 built-in fonts & the TrueType™ scaler in ROM**
- It's ideal for individual home, education and small busines users

$899.00

New! Now in Stock

Apple® Personal LaserWriter® LS Printer

- 300 DPI resolution
- **4 pages per minute**
- most affordable professional quality laser printing

$569.99

Apple® PowerBook Duo™ 230

- 33MHz68030 microprocessor
- **4MB RAM & 160MB HD**
- **including modem & DuoDock**

$2299.00

Apple® PowerBook Duo™ 250

- 33MHz68030 microprocessor
- **4MB RAM & 200MB HD**

$2199.00

Apple® LaserWriter® Pro 630

- 25-MHz Motorola 68030 processor
- 600 DPI resolution & 8MB memory
- 64 scalable fonts

$2389.00

Apple, Apple IIGS, the Apple logo, AppleTalk, ImageWriter, LaserWriter, Macintosh, Macintosh Quadra, Newton, PowerBook and StyleWriter are registered trademarks of Apple Computer, Inc. Apple SuperDrive, AppleCD, AppleColor, AppleDesign, AudioVision, GrayScale, LocalTalk, Macintosh Centris, Macintosh Duo, Message Pad, the Newton logo, PowerBook Duo, PowerCD, System 7 and TrueType are trademarks of Apple Computer, Inc. ClarisWorks is a trademark of Claris.

HP LaserJet 4M Printer

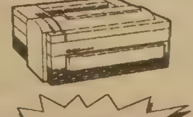
- HP's most superior laser-quality
- 600 DPI laser-quality printing

Most Superior!

$1899.99

HP LaserJet 4MP Printer

HEWLETT PACKARD
Authorized Dealer



- 600-dpi laser printing with Resolution Enhancement technology
- 32-bit, 20-MHz Intel 80960KA RISC processor

Great Price!

$1369.00

HP LaserJet 4ML printer

- 300 DPI laser-quality printing
- 80 scalble typefaces built-in
- Lowest cost HP LaserJet printer

Lowest Cost!

$989.99

COMPUTER SELECTION

Redwood City
(415) 368-8828
Fax: (415) 368-8803
2001 Middlefield Road
M-F 9:00 - 5:30

San Francisco
(415) 543-9888
Fax: (415) 777-1177
201 Mission Street
M-F 9:00 - 5:30 Sat 10 - 4

Sunnyvale
(408) 746-2288
Fax: (408) 746-2208
725 Kifer Road ***(New Location)***
M-F 9:30 - 5:30 Sat 12 - 4

Walnut Creek
(510) 943-2882
Fax: (510) 943-2890
1676 N. California Blvd
M-F 9:00 - 5:30 Sat 12 - 5

All sales subject to stock on hand. Not responsible for errors or omissions. Sale prices good 1 week from date of ad. We reserve the right to limit quantities on all products. Subject to price change and availability. #Leasing is subject to credit approval by Dana Commercial, 36 months, requires 2 payments in advance as a security deposit. **See stores for details. Subject to credit approval. ***Details on Apple mail-in rebate. Please see store for certain restrictions apply. Rebate ends March 31, 1994** employees to try it. Right now, the LA region has much more excess capacity on its information highways than on its heavily damaged concrete highways.

Readers with reactions to any of these ideas, or ideas of their own, can send them to me by fax at (818)224-4343, or by electronic mail at Robertam@netcom.com.

LOCAL GOVERNMENT ONLINE

Before the quake, this article was to have been about the trend of local governments—most notably in California—to put their functions and services online. These governments seem motivated partly to improve service to constituents, partly to save money, and partly to promote the concepts and advantages of telecommuting. Unfortunately, the earthquake has shaken up some editorial priorities, and we won't have room for a full discussion of this important new trend this month. Instead, we'll cover as much as we can now, and pick up the rest later on.

Half a dozen cities and regions have already experimented with some form of online system. Oakland has its Information Access. Cupertino has its SmartValley Project (throughout the Silicon Valley). Pasadena has its PAL Public Library system (read-only and available for franchise/replication).

One of the best-known is Santa Monica's PEN system, which provides a bulletin board and email system, conferencing, and public terminals. Available through the city's information systems department, PEN is open to anyone who lives or works in Santa Monica, and who has a computer and a modem with which to dial in and become a member. Diamond Bar is another California city with a dial-up access online system. The state of Hawaii has one, and Japan has a network in Coara, in the Oiata prefecture on one of that nation's southern islands.

But the most exciting system so far can be found in Glendale. Called LNX, the Local Information Utility, it will probably be operational by the time you read this.

Ruth Thompson is the LNX project director. It was her background in libraries that led her to develop this broad, innovative notion of how information ought to be provided. Although the existence of LNX is testimony to her practical nature, she's very much an idealist about what can be done in this area.

The LNX system is designed to provide information that people are looking for every day to help them go about their business. Because nearly everyone's time is increasingly overcommitted, the LNX system is conceived as a way for citizens of Glendale, and others, to accomplish more in less time, even on short notice.

Thompson sees LNX not only as an efficient method for providing information, but also as a tool for bringing local government into closer contact with its constituents. She even hopes it will be a tool for easing the trend toward disillusionment and alienation from the local community and the neighborhood, a method of promoting a sense of belonging, akin to the feeling that once came with knowing the shopkeepers in your local area.

To this end, LNX contains specialized information that many people don't even know exists, as well as information that would otherwise have to be expensively duplicated and distributed. Unlike most systems, it includes both governmental and commercial information.

"City Council holds its meetings in the middle of the day," says Thompson, "so most people can't come. But they still need to interact, and to feel their opinions matter. LNX makes this not only possible, but practical."

Through LNX, citizens of Glendale can more easily learn about what's going on politically, can send notes to their representatives, and can hold electronic conversations with those who make deci-

Take a Ride on the Internet

Telnet
Read News
IRC Relay Chat
email
Gopher
FTP

An account with CCnet gives you full unlimited access to the Internet.

E-Mail • USENET • USA Today • FTP • Talk
IRC • Gopher • Telnet • WWW • archie

28.8 kbps MODEMS EASY TO USE MENU No knowledge of UNIX necessary. For users familiar with UNIX all standard SHELLS available.

All this for a flat fee of $18 a month with automatic credit card billing. No usage charge. No Upload or Download charge.

For more info:

510-988-0680 (Voice)
510-988-7140 (Modem) Login as guest
CCNET COMMUNICATIONS
190 N.Wiget Ln., Ste. 291, Walnut Creek, CA 94598

Solaris WORKSTATIONS

SunSelect
Registered Reseller

(Full Configuration)
DTK 10 series (Licensed by SUN)
DTK Classic+ (Licensed by SUN)
- **3 SBuses, Run Solaris 1.1 & 2.x.**
- **Support SVGA & 1152x900 in One Graphic Card.**

CALL For The Best Price!!

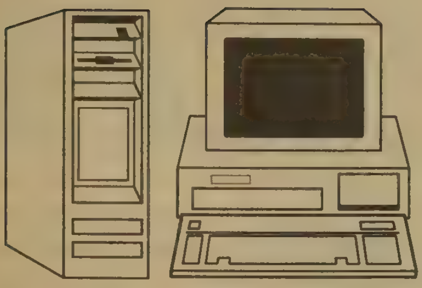
DTK 10 M514, M61 (Shipping Now)

Call Today: 1-800-468-8908

We also carry LAN related products: Ethernet cards, HUB, and PC-NFS and provide services to help you setup smooth intergration between PC and SUN workstations. Call Accord Systems Today.

Accord Systems, Inc.
548 Valley Way, Milpitas, CA 95035
Tel: (408) 945-9787
Fax: (408) 945-9849

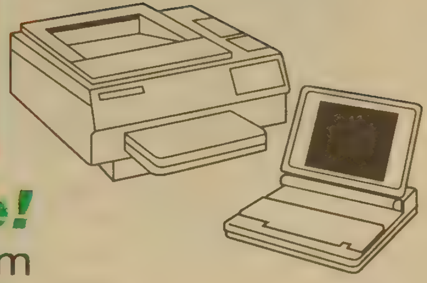
Dealer Inquiries Welcome. Gov't & Education Discounts



CompuMart

Quality, Service and Value!

Experience it in our Ultra Modern Showroom



COMPLETE PC SYSTEMS BY OPTIGOLD

ALL SYSTEMS ARE FCC CLASS B 14" SVGA MONITOR INCLUDED

System	Price
486SX-25/4M/210MB HD	$ 945
486DX-33/4M/210MB HD	$1,170
486DX2-50/4M/210MB HD	$1,245
486DX-50/4M/210MB HD	$1,295
486DX2-66/4M/210MB HD	$1,365
386SX-33/2M/40MB HD	$ 680
386DX-40/4M/120MB HD	$ 865
PENTIUM-60 VLB or PCI	CALL
PENTIUM-66 VLB or PCI	CALL

PCI, VLB or EISA motherboards are available by AMI, Micronics, NICE, AIR

NOTEBOOK PC

AST, EPSON, TWINHEAD, NEC, TI, TOSHIBA

CALL FOR THE PRICES!

DRIVES

Conner	250MB IDE/ 340MB IDE	$229/$279
	540MB IDE	$449
Fujitsu	520MB IDE/ SCSI	$499/$539
	1GB SCSI	$859
Maxtor	213MB IDE/540MB IDE	$209/$459
	345MB IDE/SCSI	$279/$359
	540MB SCSI	$579
Quantum	170MB IDE	$205
	340MB IDE/520MB IDE	$279/$489
	1GB SCSI	$829
WD	212MB IDE/250MB IDE	$209/$229
	340MB IDE/420MB IDE	$279/$359

MONITORS

ADI		14" Microscan 3E NI	$ 270
		17" Microscan NI	$ 689
KFC		15" .28 1024x768 NI	$ 365
		17" .26 1280X1024 NI Flat Digital	$ 735
MAG	MX15F	15" .28 NI	$ 495
	MX17F	17" .26 NI Flat	$ 895
NANAO	F5501	17" .28 1280X1024	$ 859*
	F5501W	17" .28 1280x1024	$1095*
NEC	3V	15" .28 NI Flat	$ 470*
	3FGe	15" .28 NI Flat	$ 589
	4FGe	15" .28 NI Flat	$ 689
	5FGp	17" .28 NI Flat	$1299
	5FGe	17" .28 NI Flat	$1079
	6FGp	20" .28 NI Flat	$2325
NOKIA	447B	17" .25 NI	$ 965
SONY	17SEI	17" .25 NI	$1225
Viewsonic	VSC6E	14" .28 NI	$ 289
	VSC15e	15" .27 NI	$ 375
	VSC15	15" .27 NI	$ 459
	VSC17g	17" .28 NI	$ 799
	VSC17	17" .28 NI	$ 979
	VSC20	20" .28 NI	$1629

NETWORK

3COM	509 Etherlink III TP/ Coax	$119
Artisoft	Lantastic V5.0 AE-2 Windows Startkit	$509
	Lantastic AI SW for DOS & Windows	$ 95
	Lantastic Noderunner 2000/C,T	$175
Intel	Etherexpress 16 TP/ Coax	$105
Novell	Netware Lite w/ Windows Utility	$ 75
	Netware 3.12 5 Users/10 Users	$ 615/$1375
	Netware 3.12 25 Users/50 Users	$1895/$2750
SMC	Elite Plus 16TP/ Coax	$ 125
	Elite Ultra 16TP/Coax	$ 97

MODEMS

Hayes	Acura 14.4 Fax Modem Int/Ext	$215/ $235
Intel	14.4 Fax Modem Int /Ext	$159/ $189
	Satisfaxton 400/400E	$285/ $315
Practical P	PM14.4Fax Modem Int/Ext	$169/ $179
	PM14.4 Pocket Fax Modem	$354
US Robotics	Sporter 14.4 Fax Modem Int/Ext	$154/ $174
Zoom	14.4 Modem Int/Mdoem Fax Int	$179/ $199

MULTIMEDIA

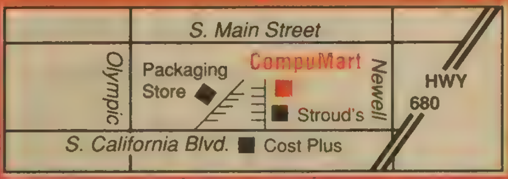
Creative Lab	Sound Blaster Pro Deluxe	$ 95
	Sound Blaster 16	$135
	Sound Blaster 16 SCSI	$179
	Sound Blaster 16 SCSI ASP	$215
	Sound Blaster 16 MCD	$169
	Sound Blaster 16 MCD ASP	$209
	Wave Blaster/Video Blaster	$185/ $299
	Edutaiment 16 Multimedia Kit	$479
	Discovery 16 Multimedia Kit	$429
	OMNI-CD Internal	$289
Media Vision	Pro Audio 16 Basic/16	$119/ $139
	Pro Audio Studio 16	$179
	Pro Movie Studio	$315
	Pro 16 Multimedia System III	$675
	Midi Mate	$ 49
Mitsumi	Double Speed CD-ROM	$175
NEC	CDR-84 250MS CD-ROM Int/Ext	$329/ $495
	CDR-510 Triple Speed Int CD-ROM	$429
	3Xp Triple Speed Int/Ext CD-ROM	$449
	3Xi Triple Speed CD-ROM	$489
	3Xe Triple Speed CD-ROM	$589
Panasonic	562 Double Speed CD-ROM	$195
Sony	CDU31A CD-ROM Int/Ext	$175/$239
Texal	DM-3024 250MS Int CD-ROM	$279
Toshiba	3401B 200MS Int CD-ROM	$349
	3401E 200MS Ext CD-ROM	$459

CONTROLLERS

Adaptec	1522/1522K	SCSI	$ 79/$145
	1542C/1542CK	SCSI	$205/$245
	2842-VL	VLB/SCSI	$315
	2742TK	EISA/SCSI	$369
Buslogic	BT445S	VLB/SCSI	$275
	BTB747AK	EISA/FAST SCSI	$389
	BT545S	SCSI	$219
Promise	DC200/DC420	IDE CACHE	$105/$109
	DC2040	SCSI CACHE	$159
	DC-4030VL	VLB/IDE CACHE	$139
Trantor	T130	SCSI	$ 65
	T338/T348	Parallel/SCSI	$ 95/$175
Ultrastor	34F	VESA/ SCSI	$245

TAPE BACK-UP

Colorado	DJ-10	120MB Int	$ 98
	DJ-20	250MB Int/ w WIN SW	$159/175
	Trakker	120MB/250MB Printer port	$249/349
	Powertape	2GB SCSI Internal/External	$959/1095



VIDEO BOARDS

ATI	Graphic Ultra + 2MB	$289
	Graphic Ultra Pro VLB 2MB	$359
Diamond	SpeedStar Pro VLB/ISA 1MB	$115
	Stealth 24 ISA/VLB 1MB	$165
	Stealth Pro VLB 1MB/ 2MB	$265/$349
	Viper 2MB VLB/PCI	$379/$415
Orchid	Fahrenheit 1280+ ISA/VLB 1MB	$159
	Fahrenheit VA/VLB 1MB/ 2MB	$189/$219
	Celcius VLB 1MB	$215
Media Vision	Prographic 1280	$685

PRINTERS

Citizen	GSX-230/ GSX-240	$245/ $ 285
	PN-48/ Notebook Printer II Color	$245/ $ 315
Cannon	BJ-10SX/ BJ-20	$265/ $ 309
	BJ-200e/ BJ-600C Color	$309/ $ 615
Panasonic	KX-P2123/ KX-P2124	$249/ $ 339
HP	Deskjet 500/ 500C	$295/ $ 399
	Deskjet 550C/ 1200C	$529/ $1389
LASER PRINTER		
HP	Laserjet 4L/4ML 4PPM, 300DPI	$655/ $ 999
	Laserjet 4P 4PPM, 600DPI	$ 995
	Laserjet 4/4M 8PPM, 600DPI	$1399/$1885
Okidata	OL400E/ OL410e, 600DPI	$ 529/$ 669
Epson	ActionLaser 1000/1500 6PPM	$639/ $ 689
	EPL-8000 8PPM	$ 899
Sharp	KJX6000 8PPM	$ 699
Panasonic	KX-P4410/ KX-P4430 4PPM	$569/ $ 669

SOFTWARE

Borland	Paradox 4.5 for Windows	$135
	Paradox 4.5 for Windows w/ Quattro	$169
	Quattro for Windows	$ 49
Corel	Corel Draw & CD for Windows V3	$129
	Corel Draw & CD for Windows V4	$355
Lotus	1-2-3 for Windows/4.0 Upgrade	$299/$ 97
	AmiPro for Windows Upgrade	$ 69
Microsoft	Excel V5.0 for Windows	$295
	Excel Upgrade/Trade Up	$ 89/ $119
	Office for Windows V4.0	$465
	Office Upgrade/Trade Up	$245/$275
	Word 6.0 for Windows	$285
	Word Upgrade/Trade Up	$ 89/ $125
	Visual Basic STD/PRO for Windows	$129/ $305
	Workgroup 3.11 ADD-ON	$ 55
WordPerfect	WordPerfect 6.0 for Windows	$269
	WordPerfect Upgrade/Trade Up	$105/$129

SCANNERS

HP	ScanJet IICx	$ 995
Logitech	Scanman 32	$ 105
	Scanman 256/ w OCR SW	$ 179/$ 219
	Scanman Color/ w OCR SW	$ 429/$ 475
Microtek	Scanmaker IIsp Flatbed Color 600DPI	$ 795
Tamarack	Color 600DPI Flatbed w/OCR	$ 765

(510) 946-1234

All prices are subject to change without notice

1320 S. California Blvd., Walnut Creek (Across from Cost Plus, next to Stroud's)

Monday-Friday: 9:30-8:00, Saturday: 10:00-7:00, Sunday: 12:00-6:00

Over 5,000 Software, Printers, Monitors, CD-ROM, Network Products, Computer Books, Magazines In Stock.

sions, or send a message to the maintenance department to have their streetlight fixed. Because the system is conceived as a "peer to peer" network, users can also conference with friends. Because it has commercial as well as governmental information, LNX users can send messages to local store owners, publicize local events, reserve tickets, make reservations at restaurants, and (eventually) even see what the restaurant looks like through a video hookup.

LNX is going to be cost-effective for Glendale because, like most cities, it is trying to serve larger and larger populations with smaller and smaller staffs. Being able to post information and get instant messages at lower cost, and to get people served without having them sit on "hold" for a long time is a major advantage. In addition, it's better for city workers charged with answering public phones to get messages electronically and be able to conduct business more quickly. "They won't feel pressured beyond their ability to cope," says Thompson, "because they'll know fewer people, if any, are on hold waiting for their turn."

LNX was conceived from the beginning as an interactive information resource that should go into every home just the way water and power do. The system actually began with a gateway to the public library catalog. Within a year, Glendale College will connect to LNX with its online catalog, and also with its class registration system.

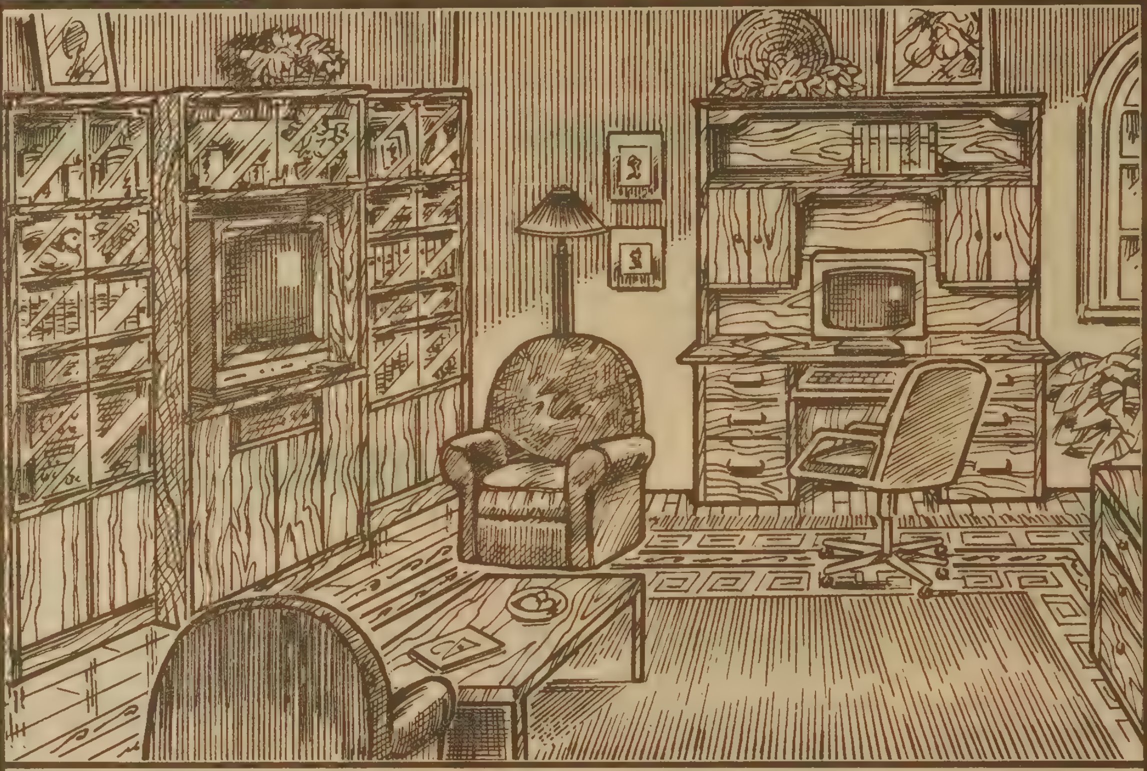
"We thought from the beginning that we needed public computers for those who don't own them," explains Thompson. "So we have installed computer kiosks in public buildings. They're not standalone systems like most kiosks, but are connected with the entire LNX system and can be used interactively with anyone else on the system."

Most of the LNX system requires dial-in by those who are familiar with computers. But the public kiosks are carefully designed with a touch screen to simplify the interface and reduce the fear of those who aren't familiar with computers. They use sound, music, and graphics to ease new users into how to operate a computer to find out what you want. Dial-up access is through DOS, Mac, Windows, and Terminal Emulation.

There are also features to support telecommuting, such as electronic mail and conferencing, which Thompson expects to be used by city employees as an alternative way of conducting business. Technologically LNX provides the capability for city employees to telecommute to work, and Glendale has empowered city division heads to approve telecommuting for their employees. Already, the Glendale Unified School District is looking at ways to use LNX as a wide area network for conducting a lot of their meetings, and LNX will effectively put the entire Glendale government online.

Future developments will include an electronic banking and bill-paying capability, which Thompson sees as a critical step on LNX, because it will allow people to complete a transaction online. That is, they can select an item through the electronic yellow pages and actually purchase it online, pay for utility bills, register for a class and pay for it, connect to the city's registration/permit department and pay any amount due, and so forth.

There's a great deal more, of course, which we don't have room for this time. For more information, you can contact Ruth Thompson directly at Glendale LNX, (818)548-6459. ■



SEE THE BAY AREA'S BEST SELECTION OF WOOD COMPUTER FURNITURE FOR HOME OR OFFICE!

Stop in soon for great value and incredibly low prices on:

- **Office/Computer Furniture**
- **Executive Desks and Chairs**
- **Files** • **Credenzas**
- **Conference Tables**
- **Wall Systems**
- **Over 50 sizes of Bookcases in stock!**
- **And more.**

And remember, Woodworks contributes a portion of your purchase toward the planting of 100,000 trees in California's forests.

Woodworks FURNITURE™

Improve Your Environment. Save The Green.

CUPERTINO
19875 Stevens Creek Blvd.
(2 blocks west of Valco)
408/255-8800

SAN JOSE
1030 Blossom Hill Rd.
(2 blocks west of Almaden Expwy.)
408/266-7746

PLEASANTON
6070 Johnson Drive
(Hwy. 580; Hopyard exit, next to Home Depot)
510/416-1176

SAN CARLOS
40 El Camino Real
(North of Holly Street)
415/593-2629

Best Price Guarantee!

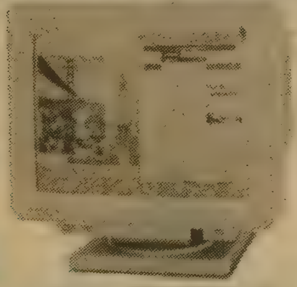
Receive our catalogs and sale flyers by mail! Just ask us to be added to the JDR mailing list!!!

March Special of the Month

Power and Phone Line Surge Protector - U/L Listed, 1875 Watt 120VA protector with 6' line cord!

$\$9^{95}$

ADI



MicroScan 3E

$\$309^{95}$

• Two-Year Warranty •

- 1280x1024 maximum resolution
- 14" Non-Glare / .28mm dot pitch
- Supports up to 1024x768 at 60hz
- Microprocessor Digital Controls
- Supports Non-Interlaced modes
- Includes ADI's 2-Year Warranty

intel pentium™ PROCESSOR

® © INTEL '92

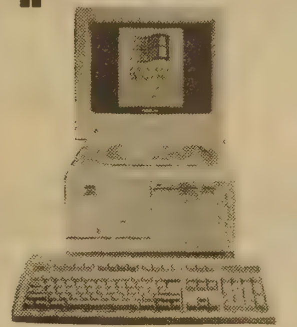
NEW LOWER PRICE!

$\$2799^{95}$

JDR's 60MHz PCI Local-Bus Pentium System

- Full Tower w/ 250 Watt Power Supply
- NEW - Intel 60MHz Pentium Processor
- 256KB of 15ns Second-Level Cache
- 16 Megabytes, 70ns 72-pin SIMM RAM
- On-board FDD/IDE Contr w/ 1Par/2Ser
- Intel PCI Chip Set / PCI Local-Bus Architecture with 3 PCI Local Bus Slots
- Genuine Intel Mfgr'd System Board!!!

JDR Microdevices®



486 VESA Local-Bus Systems

33MHz i486SX - $\$1499^{95}$

33MHz i486DX - $\$1699^{95}$

66MHz i486DX2 - $\$1899^{95}$

above systems include the following:

- Desktop Case w/ U/L Listed Power Supply
- 128Kb Cache / 4 Megabytes of SIMM RAM
- Teac 1.2Mb AND 1.44Mb Floppy Disk Drives
- 32-Bit VL-Bus IDE/FDC w/ 1Par/1Gm/2Ser's
- Seagate 3290A 261 Megabyte 16ms IDE HD
- 32-Bit VL-Bus Windows Accelerator w/ 1Mb
- ADI MicroScan 3E 14" Non-Interlaced SVGA
- Maxiswitch Keyboard / 3-Button Serial Mouse
- Microsoft DOS 6.2 & Windows 3.1 installed

PC MAGAZINE EDITORS' CHOICE

CHINON

CDS-535 Internal CD-ROM

Double-Speed

$\$369^{95}$

- 280ms Access Time / 300Kbps transfer rate
- Double-Speed / 256KB Cache RAM Buffer
- MultiSession Kodak Photo CD compatibility
- XA CD-ROM and Apple H.F.S. compatibility
- PC Magazine Editor's Choice, 2/22/94 issue

MITSUMI - Internal Double-Speed CD-ROM Drive with 250ms access time and 8-Bit PC interface card.......................$\$219^{95}$

Bargain Hunters' Specials

Mitsumi 350ms Int. CD-ROM & Card	$119.95
Conner TapeStor250 250Mb Tape Drive	$119.95
ADI 3E 14" 1280x1024 .28 SVGA Mntr.	$249.95
16-Bit 16Mb Caching IDE/FDD Contr.	$69.95
STB Wind/X Win. Accel. with 1Mb RAM	$89.95
2-Drive High-Density Floppy Controller	$19.95
Teac FD-505 Combo 1.2M/1.44M FDD	$99.95
VL-Bus Dual FDD/IDE w/ 1Par/1Gm/2Ser	$39.95
Teac FD-505 Combo 1.2M/1.44M Floppy	$99.95
NEC 3FGe 15" 1024x768 .28mm SVGA	$499.95
33MHz i486DX VL-Bus w/ 128K Cache	$349.95
66MHz i486DX2 VL-Bus w/ 128K Cache	$549.95
66MHz i486DX2 EISA/VLB w/ 128K Cache	$699.95

All Bargain Hunters' items are limited to stock on hand and are subject to prior sale. Most Bargain Hunters' Specials are "Catalog Returns". These items have been tested and are covered by our 30-Day Money-Back Guarantee and 1-Year Warranty. Check out our current bargain specials at JDR's Catalog Outlet today.

MODULAR CIRCUIT TECHNOLOGY

NEW MCT CARDS!

MCT-AMS+ - 286/386/486 4-port Serial Card utilizing NS16550 compatible UARTs; each port can use one of eight addresses and can be configured as IRQ3-5/IRQ7/IRQ9-15..$89.95

MCT-IMS+ - 286/386/486 13-port Multi-I/O & Controller Card with Four-Drive Floppy Controller, Dual IDE Controller, Dual Parallel Ports, Four Serial Ports and One Game Port - All On One Interface Card.................$139.95

Seagate

Seagate

Seagate

NEW LOWER PRICES!

ST-3145A - 131Mb, 16ms......$\$189^{95}$

ST-3243A - 214Mb, 16ms......$\$219^{95}$

ST-3290A - 261Mb, 16ms......$\$239^{95}$

ST-3390A - 341Mb, 12ms......$\$299^{95}$

ST-3550A - 452Mb, 12ms......$\$419^{95}$

ST-3550N - 456Mb, 12ms......$\$509^{95}$

ST-31200N - 214Mb, 11ms....$\$899^{95}$

ST-12400N - 2.1Gb, 11ms...$\$1649^{95}$

Avanti

486SLC Notebook Computer

$\$1599^{95}$

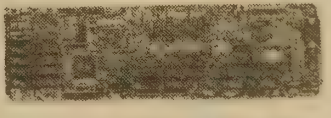
- Cyrix 25MHz 486SLC CPU / 10" Mono LCD
- 4Mb RAM installed, expandable to 36Mb
- 3.5" 1.44Mb FD / 120Mb 17ms IDE Hard Disk
- Int. 2400bps Modem/9600bps Fax with S/W
- Includes MS-DOS 6.2 and Windows 3.1

other Avanti Notebook Computers:

50MHz 486DX2 Color Notebook.....................$\$2799^{95}$

66MHz 486DX2 Dual-Scan Color N/B...........$\$3399^{95}$

ROCTEC



RocGen Pro

$\$499^{95}$

The Complete Personal Video Production System

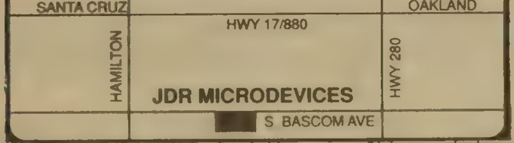
- 3 in 1 - Genlock, VGA to TV converter AND Hi-Color VGA Video Card (use as VGA card)
- Built-In Flicker-Fixer and Simultaneous Display Module / Incl. Video Director software
- Includes 512Kb Video RAM, expand to 1Mb
- Minimum System Requirements: 386SX16, 2Mb RAM, 7Mb Hard Drive space, PC serial port and Microsoft Windows Version 3.1
- ET4000-based VGA-SVGA Controller
- Supports studio-like special effects like; fade-in, fade-out, disslove, and inverted functions like the "keyhole effect"

Serving you since 1979

JDR Microdevices®

CATALOG OUTLET

1238 South Bascom Avenue
San Jose, CA 95128 408-280-7144 Fax: 408-947-8234



Prices good through 3/31/94 at this location only. We are not responsible for typographical errors. Prices are subject to change without notice. All merchandise subject to prior sale. Items pictured may only be representative. A full copy of our Terms and Conditions is available upon request.

Outlet Hours:
Monday-Friday - 9:00am-7:00pm
Saturday - 9:00am-5:00pm
Sunday - 12:00pm-4:00pm

MERCURY Means Speedy Service

With over 8 years experience, we know computers and the latest technology. Mercury offers 48-hour turn-around on repairs and upgrades. Some products we can upgrade in 1-hour.

If your computer is important to you come to Mercury!

VESA LOCAL BUS

- Intel 486 CPU with CPU cooling fan
- 486SX/DX 33/40/DX2 66 switchable VESA local bus motherboard with 256K cache
- 4MB RAM, AMI bios
- VESA local bus IDE controller
- 245MB Maxtor hard drive
- 14" SVGA .28 monitor
- Cirrus Logic VESA local bus SVGA card with 1024K RAM
- Teac 1.2MB or 1.44MB floppy drive
- Two serial, one parallel, one game port
- Focus 2001 enhanced keyboard
- MS DOS 6.2 w/Menu
- Mini-tower with 250W power supply
- 5 Year labor, one year parts warranty

SX-33MHz	$1095
DX-33MHz	$1269
DX2-50MHz	$1369
DX2-66MHz	$1469

VESA LOCAL BUS
ENERGY STAR

- Intel 486DX CPU with CPU cooling fan
- 486SX/DX 33/40/DX2 66 switchable VESA local bus motherboard with 256K cache
- 4MB RAM, AMI bios
- VESA local bus IDE controller
- 345MB Maxtor hard drive
- 14" Addonics SVGA .28 Non-Int energy efficient monitor - Saves up to 70% energy consumption
- Cirrus Logic VESA local bus SVGA card with 1024K RAM (2MB max)
- Teac 1.2MB and 1.44MB floppy drive
- Focus 2001 enhanced keyboard
- MS DOS 6.2 w/Menu
- Mini-tower with 250W power supply
- 5 Year labor, one year parts warranty

Add $180 for Maxtor 540MB 8.5ms hard drive

DX-33MHz	$1395
DX2-50MHz	$1495
DX2-66MHz	$1595

NOTEBOOKS

ShowBOOK IV

486DX-33 • Mainframe Power w/Expandability

VESA Local Bus • PCMCIA II • 4MB 120HD

PC MAGAZINE

TOP CHOICE DEC. 93

- Intel 486DX 33 switchable to DX2-66
- 4MB RAM exp. to 20MB
- Local Bus Video Maximizes your graphics performance
- 128K Cache (optional)
- Simultaneous Internal & external display and keyboard
- 2 PCMCIA Type II Slots
- Keyboard with Built-in trackball
- Weight 6.6 lbs

$1749

Upgrades and Options

- Docking Station Optional!
- DX2-66 Upgrade .... Add $200
- 210MB/340MB HD Upgrade .... Add $120/330
- Dual Scan Color .... Add $700

ShowBOOK

486SLC-50 Notebook With Graphics Performance

VESA Local Bus • PCMCIA II • 2MB 120HD

- 486SLC-50MHz
- 2MB RAM exp. to 8MB
- Local Bus Video Maximizes your graphics performance
- 4-6 Hours battery life per charge
- Trackball with 2 buttons
- Only 3.7 Lbs
- Serial parallel, external keyboard & CRT ports

$1359

Color version available

Upgrades and Options

Internal fax/Modem
Docking Station
Lan Adapter

SubLITE

486DX-33 • PCMCIA II

- Intel 486-25MHz
- 4MB exp to 12MB
- 120MB Hard Drive exp to 210/340/500
- Serial, parallel, external keyboard & CRT ports
- Built-in palm reset trackball
- Weight 4lbs

$1595

HARD DRIVES

Maxtor

IDE Hard Drives	
131MB 14ms	$179
245MB 15ms	239
345MB 14ms	279
540MB 8.5ms	439

SCSI Hard Drives	**Internal**	**External**
245MB 15ms	$239	$349
340MB 14ms	337	447
540MB 8.5ms	569	679
1.2GB 8.5ms	1299	1409

CONNER

IDE Hard Drives	
250MB 14ms	$219
340MB 13ms	258
540MB 12ms	449

SCSI Hard Drives	**Internal**	**External**
340MB	$319	$429
540MB 12ms	494	614
1.0GB 10ms	949	1059

WESTERN DIGITAL

IDE Hard Drives	
250MB 13ms	$214
340MB 12ms	255
420MB 13ms	338
540MB 12ms	459

MICROPOLIS

IDE Hard Drives	
1.0GB 10ms	$829

SCSI Hard Drives	**Internal**	**External**
1.0GB 10ms	$829	$939
1.75GB 10ms	1199	1309
1.8GB 14ms	1499	1699
2.0GB 11ms	1599	1799
3.0GB 11ms	2399	2599

FUJITSU

IDE Hard Drives	
520MB 12ms	$449

SCSI Hard Drives	**Internal**	**External**
520MB 12ms	$459	$564
1.0GB 10ms	839	949
2.0GB 12ms	1399	1599

TEAC FLOPPY DRIVES

1.2MB 5.25"	$47
1.44MB 3.5"	37
1.2/1.44MB Dual	108

SCSI CONTROLLERS

ADAPTEC	
CD ROM 16-bit SCSI Card Kit	$99
16-bit 7HD/2FD Kit	148
Bus Master Complete Kit	239
Bus Master Kit with Corel SCSI	314
EISA Kit, 14HDs	369
Fast SCSI-II VESA	299
FUTURE DOMAIN	
8-Bit w/Bio	$59
SVP 16-Bit SCSI Value Pack	149
SVP 16-Bit Value Pack 7HD/4FD	149
ULTRASTOR	
FD/HD 10MB/Sec	$195
EISA 64K, Fast (33/Sec)	359
VESA Local Bus Controller	269
DATA TECHNOLOGY	
VESA, Host adapter	$129
ISA to SCSI 16-bit host	139
EISA to SCSI 23-bit host with cache	499
PROMISE TECHNOLOGY	
Caching 16-Bit SCSI-ISA .03 Fast w/0MB (up to 16MB)	$149

IDE CONTROLLERS

PROMISE TECHNOLOGY	
2FD/4HD ISA 512K (exp to 16MB)	$95
2FD/4HD ISA 512K (exp to 8.5MB) .288 Support	129
VESA 2FD/2HD 512K (exp to 1MB)	109
2FD/2HD 19MS/Sec Trans Rate 2.88 Support	125
DATA TECHNOLOGY	
16-Bit PC/AT IDE super I/O	$24
VL-kit VLB with Multi-Function I/O	39
VL-kit VLB caching	149

FAX MODEMS

US ROBOTICS

14.4 high speed fax/modems SPORTSTER 14,000
14,000bps, V.32/V.42 bis, Winfax Software & Sierra Network Start-up Kit included (from The Sierra Network®)

Internal/External for PC	$145/169
Mac&Fax, 14.4 for Macintosh	189

MERCURY Computers

1601 Telegraph Avenue
Oakland, CA 94612

(510) 763-7631 · FAX (510) 763-0814

VISA MasterCard

Hours: M-F 9-6; Sat 10-2

Get the MERCURY Advantage

- 5 Years Labor
- Money Back Guarantee
- Lifetime Technical
- 8 Years Experience

PENTIUM

VESA LOCAL BUS

16MB - 540MB Hard drive
NEC 15" Monitor - Promise Controller

- Intel Pentium 66MHz CPU with CPU cooling fan
- 16MB 72-pin RAM (Max. 128MB)
- Two VESA local bus slots
- Promise 4030 cache VLB controller w/2MB RAM
- 540MB (8.5ms) Maxtor hard drive
- Cirrus Logic VESA local bus SVGA card with 2MB RAM
- NEC 3V 15" .28 SVGA monitor
- Teac 1.2MB and 1.44MB floppy drive
- Two serial, one parallel, one game port
- Focus 2001 enhanced keyboard
- MS DOS 6.2 w/Menu
- Mid-tower with 250W power supply
- 5 Year labor, one year parts warranty

66MHz	**$3499**
60MHz	**$3299**

MULTIMEDIA

CD-Sound Card • Speakers-Titles

- Intel 486DX CPU with CPU cooling fan, AMI bios
- 256K fast SRAM cache on board (20ns)
- 4MB RAM (Max 128MB)
- Three (3) VESA local bus, four (4) ISA slots
- Promise VESA local bus IDE controller
- 345MB Maxtor hard drive
- 14" Super VGA .28 monitor
- Cirrus Logic VESA local bus super VGA card with 1MB
- Teac 1.2MB or 1.44MB floppy drive
- Two serial, 1 parallel, 1 game ports
- Focus 2001 enhanced keyboard
- MS DOS 6.2 & Windows 3.1
- Medium tower case with 250W ps and 8 drive bays
- 5 Year labor, one year parts warranty
- Sony 535 double speed CD-ROM
- 16-Bit sound card with 2 speakers
- 4 CD-ROM software titles

DX-33MHz	**$1849**
DX2-50MHz	**$1949**
DX2-66MHz	**$2049**

CD ROM DRIVES

NEC

SCSI CD-ROM Drives

Internal triple speed 450Kb/Sec 190ms	$529
External triple speed 450Kb/Sec 190ms	569
Portable 450Kb/Sec 240ms	428
Multispin/doublespeed 280ms/300k/sec	249

TOSHIBA

SCSI CD ROM Drives

XM3401B 200ms, 300Kb/Sec, Multi-Spin/Speed 256K Cache Buffer, Kodak Photo CD, Caddy included

Internal	$349
External	429

PLEXTOR

formerly Texel

SCSI-II Double Speed CD-ROM

3028 Internal SCSI-II CD Fast 240ms, Multi-Spin/330Kb/Sec, Caddy & Manual "NEW"	$289
5028 External w/Caddy	379
Trantor T130 Controller with SCSI Work	45

ORCHID

Double Speed CD-ROM

CDS-3110 CD-ROM 300Kb/Sec, Includes interface Card, Data & Audio Cables, Driver Software	$188
Sound Wave/CD Multimedia Kits s3-3110 w/software bundle & Soundwave 32 card	449

SONY

33A CD ROM Double Speed

CD ROM drive, Controller Card, Cables & Software NEW	$199

5661 SCSI CD ROM

SCSI CD ROM Drive, Double Speed, 285ms/300Kb/Sec, 256K Cache	369

CHINON

CD-535 SCSI-II CD ROM

SCSI-II CD ROM Drive: Multisession Photo CD, XA Compatible, 256K Buffer, 280ms, Double Doors, Sealed Mechanism

Internal Unit	$329
Internal w/Card & Software	379
External for Mac or IBM	429

MITSUMI

Internal Double Speed NEW

DoubleSpeed, 250ms, 300Kb/s, card	$199

Internal

SingleSpeed, 350ms, 8-bit card MPC Ready	149

BACKPACK

Parallel Port External CD ROM

bpCD 350ms, 128K Cache, Multi-Session Photo CD, Device Drivers, Ideal for Notebooks	$365

Double Speed Parallel Port
External CD ROM Drive

bpCD 250ms, 300Kb/s, double speed high perf. device drivers, Ideal for Notebooks or laptops	$399

PANASONIC

CR562 CD ROM & CARD

CD ROM Drive Double Speed, XA Compatible, 320ms, 300KB/Sec. 64K Cache, Audio Card and cables	$199

OMEGA

250MB Tape Backup

250MB (250 Insider)	$169
250MB (External Tape 250) parallel port	359

COLORADO

Internal: Runs off Floppy Port

120Mb DJ10 Jumbo 120	$89
250MB DJ20 Jumbo 250	159

External Kit & Accessories

External Kit w/Card & Cables (KE-10)	$109
External Tape Port AB-11	35
FC-10 Tape controller w/cables	79
TC-15 High perf. 16-bit controller	169

TRAKKER

External: Runs off printer port

120MB Trakker 120	$287
250MB Trakker 250	327

REMOVABLES/OPTICALS

SyQuest Removable Cartridge Drives

44MB internal SQ555	$235
44MB external w/cartridge & cables	389
88MB C internal SQ5110C	299
88MB C external w/cart & cables	469
105MB int IDE SX3105A	239
105MB internal SCSI SQ3105S	319
Cart.s 44MB/88MB/105MB	63/95/69

Bernoulli Removable Cartridge Drives

90MB Bernoulli PC/MAC Trans	$89/479
150MB Bernoulli PC or MAC	529
90MB/150MB Cartridges	109

MONITORS

NEC

JC1431 14" SVGA	$39
3V 15" SVGA	523
3FGe 15" SVGA 60Hz	565
4FGe15" SVGA 76Hz	663
5FGe 17" SVGA 76Hz	1045
5FG 17" 1280x1024 SVGA 74Hz	1299
5FGp 17" 1280x1024 Optical Surface	1329
6FG 21" 1280x1024 SVGA 74Hz	2389
6FGp 21" above 6Fg w/OptiClear Surface	2495

VIEWSONIC

15 15" SVGA .28 NI 76Hz	$449
17 17" SVGA .28 76Hz	979
20 20" SVGA 1600X1280 NI	1605
21 21" SVGA Dual Page	1869

NANAO

15" Non-Int F340iw	$623
17" Non-Int .28 F550i	939
17" AKA "The Green Monitor" F560iw	1379
17" Non-Int 1280x1024 .25dpi F560i	1623
20" Trinitron tube 1280x1024 .28dpi T660i	2372
21" 1280x1024 74Hz .31dpi F760i	2095

AUDIO/VIDEO CARDS

SPIDER

32VLB VESA LB 256 colors 1MB/2MB	$95/139
32VLB Plus VESA LB 256 colors 30% Faster 1MB/2MB DRAM	119/169
Black Widow VESA LB 1MB/2MB VRAM	189/245
Black Widow Engine Graphics Engine NEW	$179/239

ATI

Graphic Ultra+ Win Acc 16.7M colors 2MB	$225
above with ATI Bus Mouse	254
Graphic Ultra Pro 256 colors, 2MB VRAM	254
above with ATI Bus Mouse	398
Graphic Ultra Pro 2MB EISA	399
Graphics Ultra Pro VLB Mach 32 2MB VRAM VESA	399

DIAMOND

8500VL Turbo VESA LB 16.7M Colors	$109
Phanton 32i PCI 2MB graphics accelerator	249
Phantom 32i 2MB VESA LB graphics accelerator	219

MULTIMEDIA

AUDIO/VIDEO

SoundWave 32

16-Bit, 20MIPS, MPC level II Compatible, includes speakers and Microphones	198

KELVIN 64

64-Bit Win Graphic Acc, 16M colors VLB & PCI ver.	CALL

Fahrenheit VA/ VLB - VA

ISA, Bi-directional VESA connector, w/Speakers & Microphone, 1MB	$169
2MB	199

Celsius VLB

CAD accelerator, hi res, 1MB	$199
2MB	261

GameWave 32

16-Bit CD sound, MPC II compatible, 20 MIPS	$149

MEDIA VISION

Pro 16 CD III Triple Speed Upgrade Kit

195ms SCSI CD ROM, 16-Bit Sound Card and More	$789

Pro 16 Multimedia System II

ProAudio Studio w/Voice recognition, Plus 8 titles	569
MEMPHIS External Multimedia System	639

Double Fusion FX

Int Double speed 300Kb/Sec W/Speakers & Software Titles. Plus ProAudio Spectrum 16 Sound Card	$379
Pro Audio 16 Basic	88
Pro Audio Spectrum 16	127
Pro Audio Studio 16	157
External Kit for Pro Audio Spectrum	49
Portable PC Sound Audioport	129
MIDI Mate (external MIDI Connector Box)	48
MEDIAVISON Pro Graphics 1280 16.7M colors VESA LB 32-Bit, 72Hz Non-Int. 4MB	679

CREATIVE LABS

OMNI CD upgrade kit

CD-ROM drive, interface card, bundled software & cables	$279

EDUTAINMENT 16 CD upgrade Kit

CD-ROM drive, Sound Blaster 16, bundled software & Speakers, Int	469

DISCOVERY 8 CD upgrade Kit

CD-ROM drive, Sound Blaster, bundled software

Internal	$359
Sound Blaster Deluxe	67
Sound Blaster Pro Deluxe	67
Sound Blaster 16/Basic	159/129
Sound Blaster 16 SCSI 2/with ASP	185/205
Sound Blaster 16 Built CD/with ASP	168/199
Video Blaster /Wave Blaster	319/179

TURTLE BEACH SYSTEMS

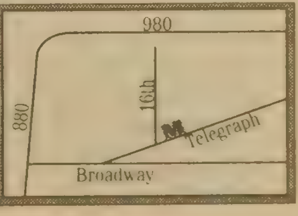
Multisound 16-bit multimedia card	$415
Maui Wavetable Synthesizer Upgrade	139
WAVE for Windows sound editing software	79
Turtle Tools for Multimedia	39
Karaoke software for MIDI	39

MERCURY Computers

(510) 763-7631 · FAX (510) 763-0814

1601 Telegraph
Avenue
Oakland, CA
94612

VISA MasterCard



Prices subject to change w/o notice · Not responsible for typo's

Support For LAN Administrators

Novell's Tech Support Database And Other Resources Are Available Via The Internet

BY PETER JOHN HARRISON

RESOURCES:

Internet Access Providers (a by no means complete list):

dial-n-cerf
1-800-876-2373

HoloNet
(510)704-0160

Netcom Online Communication Services
(408)554-UNIX

The Portal System
(408)973-9111

Copyright © 1994 by Peter Harrison. All rights reserved. Peter Harrison, a San Mateo-based data communications and connectivity specialist, can be reached via Usenet (peterh@well.sf.ca.us) or CompuServe (74017,1716).

LANs are continuing to evolve and change. In the mid-'80s, when LANs were introduced as departmental solutions for sharing printers and for word processing and spreadsheet files, "big iron" mainframes managed corporate databases and "mission critical" stuff. By the end of the '80s, some of those mission critical applications had migrated down to the LAN environment, and some smaller businesses were using LANs for all their computing needs.

Now, as LANs move into their second decade, they are being linked together—not just department-to-department, or location-to-location, but business-to-business. Microcomputer LANs are being used to run business applications once considered too large and complex for anything less than a mainframe, and LANs have expanded to include machines from different operating environments, combining PCs, Macs, UNIX systems, mainframes, even telephone equipment into a single coherent network. New technologies, ideas, and dreams of a national "data superhighway" continue to shape even small network environments. Perhaps a decade from now we'll still call it a LAN, or "local" area network, but the data we'll be sharing will come from across the country and around the globe.

In the months to come, I'll be talking about many subjects of interest to LAN users large and small, from next month's article on easy to set up networking hardware and software for your home or small business, to a look at heterogeneous networks where PCs, Macs, and UNIX systems all share data.

NOVELL TECH SUPPORT ONLINE

If you've been putting off getting an Internet account, here's a good reason to stop procrastinating: Novell's tech support database will soon be available online.

Calling Novell's tech support line for help with NetWare is anything but cheap. If you're not a Novell Certified Network Engineer (CNE), it'll cost you $150 to ask even the most basic question (CNEs get help for $75), and while that money can go a long way—Novell won't close a call out until the problem is resolved and the caller satisfied—it's a steep price if all you need is a little help with some poorly documented facet of NetWare. Having free access to the database used by Novell's own tech support team can be a real money saver.

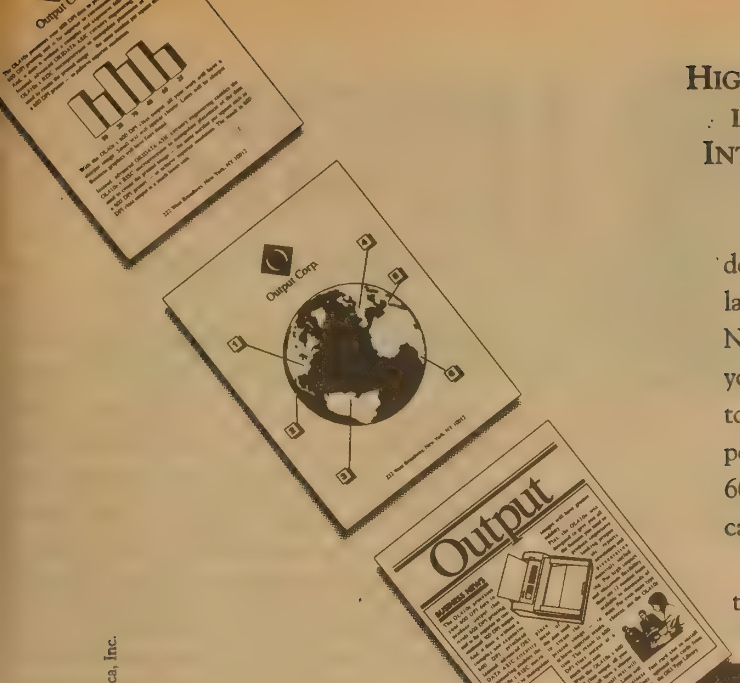
> **New technologies, ideas, and dreams of a national "data superhighway" continue to shape network environments.**

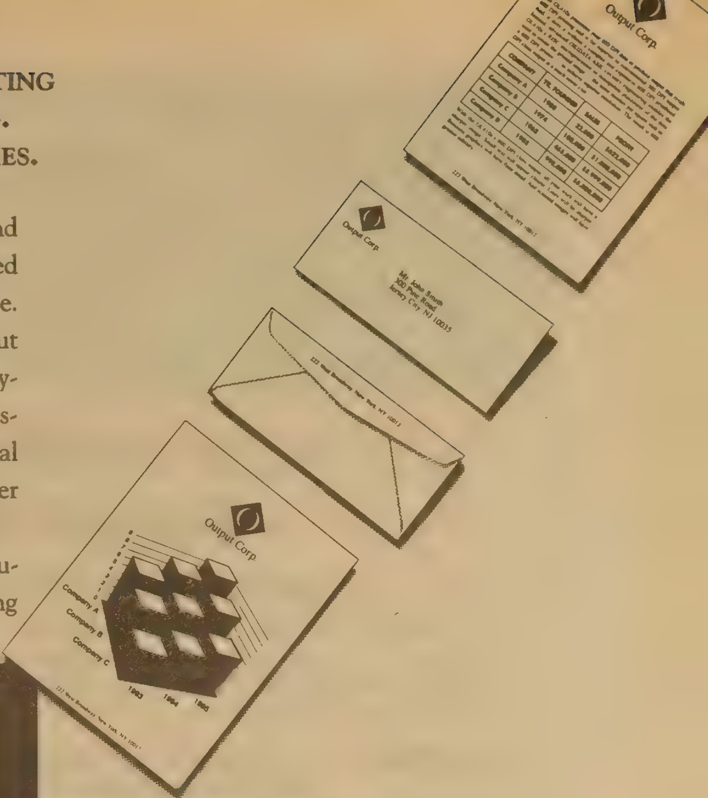
Novell's tech support database is a World Wide Web (WWW or Web) hypertext-based system, and it's fairly easy to use. There is a catch, though. To take full advantage of a Web database, you'll need a browser, the graphical interface for Web. Very few NetWare administrators probably have access to a full-featured browser. For those who do, you can access the database at URL hhttp://www.novell.com/. Be forewarned that this is a new service at Novell, and there are bound to be changes. Also, to use this graphical, hypertext resource you'll need node-level connectivity to the Internet—a dial-up terminal connection won't work.

With a standard dial-up Internet connection, a network administrator has access to many useful resources. Novell has the entire contents of NetWare, an assortment of user programs, Novell patches, and product enhancements available via the Internet, at ftp.novell.com. For those who need a little more help finding the Novell resource they want, there is a text-driven gopher server at gopher.novell.com that will help you find the files you need. Either of these two resources would be a good place to go if you need a specific Novell file, such as the latest NetWare client software for MS-DOS 6.2 DOSUP9.

Novell isn't the only source of networking wisdom and useful programs on the Internet. There is an Internet newsgroup, comp.sys.novell, where Novell network users ranging from beginners to old hands ask and answer questions, and make observations about the networking industry. The newsgroup is a great place to get help troubleshooting a problem on your LAN, setting up new LAN resources, or when you're trying to select the right hardware or software for your needs. It is one of my first stops before I buy new networking hardware or software and I need opinions from people who already have experience with the products I'm looking at.

There are also archives of computer pro-


Output
Output Corp.


Output Corp.
Company A
Company B
Company C
1993
1994
1995

HIGH-RESOLUTION LASER QUALITY PRINTING IS NO LONGER HIGH PRICED PRINTING. INTRODUCING THE OKIDATA 400e-SERIES.

If you thought that outstanding clarity and detail were only possible with a premium-priced laser printer, take a close look at the new OL410e. Now you can produce the same superb output you see here for a lot less. The OL410e is an easy-to-use 600 dpi-class output printer with 4 pages-per-minute speed, at a price well below typical 600 dpi lasers. With the OL410e, any PC user can look *Fortune 500®* on a home office budget.

Okidata also offers standout 300 dpi resolution with *PC Magazine's* Editors' Choice winning OL400e. The experts said, "...if you want laser quality, you won't find a better bargain." Both models support Okidata's tradition of reliability with an unsurpassed 5-year LED printhead warranty.

Stand Out

See Okidata 400e-Series print quality for yourself. Visit one of these authorized Okidata dealers.

You'll find values that make your output stand out.

YOUR BUSINESS HAS NEVER LOOKED BETTER.™

Output Corp.
Output Corp.
OKIDATA
PC MAGAZINE EDITORS' CHOICE
Nov. 23, 1993
Okidata OL400e

OL400e

Output Corp.
Output Corp.
Output Corp.
Output Corp.
Output Corp.
Output Corp.
Output Corp.
Output Corp.
Output Corp.
O
OL 400e

OL410e

The New
OKIDATA
A Division of Oki America, Inc.
400e Series
Personal Printers.

Access Computers
2225 Elcamino Real
Santa Clara, Ca 95050
408-247-4444

Access Computers
2080 El Camino Real
Palo Alto, CA 94306
415-813-0600

Bay Area Computers
130 Sansome St.
San Francisco, CA 94104
415-393-9600

MicroTech International
47000 Warm Springs Blvd. #8
Fremont, CA 94539
510-226-8650

Shoreline Computers
1125 A Street
San Rafael, CA 94901
415-459-5800

LYC Electronics, Inc.
2666 N. West Lane, #A
Stockton, CA 95205
209-948-3282

Okidata Reg. T.M., M.D. Oki Electric Industry Co., Ltd. "Your Business Has Never Looked Better" T.M. Oki America, Inc.

Point of Sale ○ Networks ○ Systems
Repairs ○ Maintenance ○ Training

Complete System Services
Satisfaction Guaranteed!

Point of Sale Systems
Rapid Fire®
Computer Tracking & Cash Register Systems

ELO GRAPHICS Acutouch Touch-Screen Monitor $765

1. Electronically Track Customer Patterns
2. Produce Loyal or Lazy Customer Mailing Lists
3. Evaluate Customers Based on Loyalty, Geographics, Dollars Spent, Activity, Etc.
4. Increase Repeat Business

Perfect for:
- Cashier & Quick Service
- Wait Service & Fine Dining
- Delivery & Driver Management

RapidFire® The Leader in Tracking & Cash Register software, can help your business increase & productivity.

At Backyard Computer Services we can tailor the system to suit your needs.
Call for a complete list of options.

Including:
- Lite Pen or Touch Screen
- Time Clock Employee Features
- Menu Driven Utilites
- Customer Database & Tracking
- Inventory Tracking & Reporting
- User Definable Sales Reporting
- Multiple Location Polling of Information
- On-Site Training & Installation Available
- References Available Throughout the U.S.A.

Networking Services
Authorized by Shiva™
PREMIER PARTNER MEDALLION ATTACHMATE®
Amphenol Authorized fiberoptics installers and splicers
The Networking Specialist™
Backyard Computer Services is fully authorized by Shiva™ to provide you with their complete line of Networking Solutions. Shiva™ is known for:
- Transparent connection
- Comprehensive security
- Installs in minutes
- Scalable and affordable
- Easy to manage
- Flexible upgrades

Network Repairs & Maintenance
We can perform all your system and network repairs with our state of the art equipment.
Ask about our Maintenance Services.

Preventive Maintenance System Special
- Floppy drives cleaned and aligned
- Complete virus scan of system
- Optimization of hard drive
- Inspection of network

$45 *Limited Time!*

Training
We offer complete training for WordPerfect and Quattro Pro!

Monitor Repairs
Monitor Repairs $55 plus parts
Monitor Alignment & Adjustment $50

New Systems
We carry a full line of high quality new systems. Custom Configuration!

486SX-25 Multi-Media
4MB, 200MB HD
SVGA, with 4 CD's
~~$1795~~ CALL!

486DX-33 Multi-Media
4MB, 200MB HD
SVGA, with 4 CD's
& 2-Speed CD-ROM
~~$2195~~ CALL!

BACKYARD COMPUTER SERVICES
Over 10 Years Experience *Serving the Entire Bay Area* *Free Parking in Rear of Store*
(510) 689-3733 1842 Colfax St. Concord, CA 94520

grams that a LAN administrator might find useful cached all over the Internet. One of my more recent finds is ETHLOAD, a very basic protocol analyzer that will work with most ethernet cards. ETHLOAD is great if all you need to do is figure out how heavy a load an ethernet network is taking, and who is taking the most bandwidth. ETHLOAD can help improve your network's performance by giving you statistics on how much of your network bandwidth is being used; when usage peaks, and who uses the most bandwidth. Armed with this information, you can make intelligent decisions on when to split your network into two parts, and who to put on each "subnet" so that the network load is evenly distributed. Best of all, ETHLOAD is free, as are many of the programs available on the Net. To get a hold of a copy, just use the Internet's file transfer protocol, ftp, to retrieve ETHLD104.ZIP from oak.oakland.edu.

Having free access to the database used by Novell's own tech support team can be a real money saver.

There's a lot of information available on the Internet, and other people in your office may someday need access to one of the many resources available there. Using the Internet to keep in touch with fellow professionals, business partners, customers, and friends has become a business necessity at many companies. Other Internet resources range from Bureau of Census tract information and the text of recent Supreme Court decisions to information on astronomy and astrology, and how to maintain your LAN.

The Internet may be coming to a LAN near you, so, if you're not familiar with the Internet yet, perhaps you should start now. Taking a look at these LAN-related resources on the Net may be just the place to start. ■

BEST PRICE & QUALITY IN TOWN! (408) 734-9386

TOP DATA MONTHLY SPECIALS

SYSTEM	M/B +CPU	BASIC SYSTEM	BASIC SYS +40MB HDD +14" MONO +MGP CARD	BASIC SYS +40MB HDD +14" MONO VGA +VGA CARD	BASIC SYS +40MB HDD +14" SVGA +SVGA CARD	BASIC SYS +80MB HDD +14" SVGA +SVGA CARD	BASIC SYS +120MB HDD +14" SVGA +SVGA CARD	BASIC SYS +200MB HDD +14" SVGA +SVGA CARD	BASIC SYS +250MB HDD +14" SVGA +SVGA CARD
486DX2-66C VLB	429	599	829	889	979	1,039	1,099	1,159	1,219
486DX-50C VLB	379	549	779	839	929	989	1,049	1,109	1,169
486DX2-50C VLB	319	489	719	779	869	929	989	1,049	1,109
486DX40C VLB	299	469	699	759	849	909	969	1,029	1,089
486DX33C VLB	289	459	689	749	839	899	959	1,019	1,079
486SLC2-66CVLB	269	439	669	729	819	879	939	999	1,059
486DLC-40C VLB 87DX40inc'd	179	349	579	639	729	789	849	909	969
486DX2-66C EISA VLB	599	769	999	1,059	1,149	1,209	1,269	1,329	1,389
486DX50C EISA VLB	549	719	949	1,009	1,099	1,159	1,219	1,279	1,339
486DX2-66C ISA	409	579	809	869	959	1,019	1,079	1,139	1,199
486DX50C ISA	359	529	759	819	909	969	1,029	1,089	1,149
486DX2-50C ISA	299	469	699	759	849	909	969	1,029	1,089
486DX40C ISA	289	459	689	749	839	899	959	1,019	1,079
486DX33C ISA	279	449	679	739	829	889	949	1,009	1,069
486SX33 ISA	159	329	559	619	709	769	829	889	949
486SX25C ISA	136	306	536	596	686	746	806	866	926
486SLC2-66C ISA	189	359	589	649	739	799	859	919	979
486DLC40C ISA	169	339	569	629	719	779	839	899	959
486SLC40C ISA	129	299	529	589	679	739	799	859	919
486SLC33C ISA	86	256	486	546	636	696	756	816	876
386DX-40 ISA UPGRAD'L	116	286	516	576	666	726	786	846	906
386SX40 ISA	79	249	479	539	629	689	749	809	869
386SX33 ISA	69	239	469	529	619	679	739	799	859
386SX20 ISA	59	229	459	519	609	669	729	789	849

BASIC SYSTEM: MB W/CPU, 1MB MEMORY, SUPER IDE, 1.44MB FD, MINI TOWER W/230W PS & KEYBOARD.

MONITORS

14" Mono Amber	83
14" VGA Mono	109
14" VGA Color(640x480) .51	179
14" Super VGA 1024x768 .39	199
14" Super VGA 1024x768 .28 Int.	239
14" Super VGA 1024x768 .28 NI.	259
15" Super VGA 1024x768 .28 NI.	346
CTX	
14" Super VGA 1024x768 Int.	249
14" Suoer VGA 1024x768 NI.	269
14", 1461, 1024 NI VESA	299
15", 1561, 1024 .28 NI	369
17", 1760, 1280 .28 NI	769
MAG	
MX15F/MX17F	499/899
NANAO	
15", F34IW, 1024X768 72Hz	669
17", F550I, 1280X1024 .28 NI	998
17", F550IW, 1280 .28, 75Hz	1,088
17", T560I, 1280X1024, .26	1,678
20", T660I, 1280X1024, .31	2,418
21", F750I, 1280X1024, .31	2,298
PROTON--MultiMedia Monitor	
14", 1440A/1448A W/SPKR.	279/309
15" 1561A .28 1280NI W/SPKR	439
VIEWSONIC	
4E/5E/6E/7	269/369/299/869
15/17/20	489/999/1,669

VIDEO CARDS

SVGA -256K/512K/1MB	29/49/69
ATI GRAPHICS	
ULTRA 1MB W/MOUSE	169
ULTRA PLUS 2MB	249
ULTRA PRO 2MB ISA/VLB	329
CIRRUS LOGIC	
5424/5426/5428 1MB VLB	79/99/109
5426/5428 2MB VLB	149/159
DIAMOND	
SPEED STAR PRO ISA/VLB	119
STEALTH 24 VLB	159
STEALTH PRO 1MB/2MB VLB.	259/329
VIPER 2MB VLB	379
ORCHID	
CELSIUS VLB 1MB/2MB	229/299
FAHRENHEIT 1280 VRAM ISA	129
FAHRENHEIT 1280+ 1MB	149
FAHRENHEIT VLB 1MB	149
FAHRENHEIT VA VLB 1MB	169
SPIDER	
1MB/2MB	129/179
BLACK WIDOW 1MB/2MB	199/269
TSENG LAB	
ET4000 256C 1MB ISA	79
ET4000 HI-COLOR 1MB ISA	89
ET4000 1MB VLB	99
ET4000W32 1MB VLB	139

NETWORKING

ARTISOFT STARTER KIT	
LANtastic AI Operating System x2	
NE2000 Ethernet Card x2	
T-connector x2, Terminator x2	
RG58 Coax Cable x1	289
For Windows	339
NETWARE LITE STARTER KIT	
Netware Lite Operating System x2	
NE2000 Ethernet Card x2	
T-connector x2, Terminator x2	
RG58 Coax Cable x1	199
NETWARE 2.20/3.12/4.01 PLS CALL	

RISC PC

MIPS R4000PC 64-Bit RISC Processor
8KB Instruction cache/8KB data cache
512KB Secondary cache(upto 2Mb)
64-bit Fast Burst Video Bus(200MB/sec)
8MB memory (upto 256MB)
500MB SCSI HD
Integrated SCSI II contlr on 64-bit I/O bus
Built-in 32-bit Ethernet on 64-bit I/O bus
Five ISA expansion slots for ISA adapter
Microsoft Windows NT Operating System
Run all your application software for PC

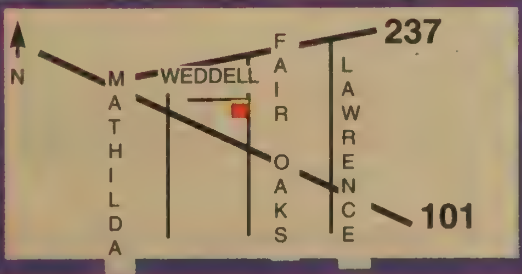
ONLY $2999

MULTIMEDIA

CD-ROM	
Mitsumi Single Speed 350ms	159
Mitsumi Double Speed 250ms	229
Panasonic CR562 DS	239
Sony 31A	159
Texel 3028 240ms SCSI	379
Tashiba 3410B 200ms SCSI	369
16-BIT SCSI CNTR W/DRIVER	89
Creative Lab	
Sound Blaster Deluxe	79
Sound Blaster Pro Deluxe	119
Sound Blaster 16	169
Sound Blaster 16 Basic	139
Sound Blaster 16 SCSI2	199
Sound Blaster 16 MulitCD	199
Wave Blaster/Video Blaster	199/329
CD Software 6titles 3CDs	89

CONTROLLERS

IDE 2FD/HD with 2S1P1G	16
IDE Cache Controller(0K)	89
IDE VLB 2FD/2HD with 2S1P1G	36
IDE Co-exit work w/MFM, RLL etc	35
Forex SCSI VLB Bus Master	179
Promise DC4030VL-II 19mb/sec,2.88.	145
Trantor T338 Parallel to SCSI	149
Trantor T248 Parallel to SCSI plus	199



TOP DATA

To Order Call

(408) 734-9386

Information/Int'l Call:	(408)734-9386
Service/Tech. Support:	(408)734-9343
Fax Orders:	(408)734-9340

574 Weddell Dr. #5, Sunnyvale, CA 94089
Hours: M-F 9am-6pm, Sat 10am-4pm(PST)

TERMS AND CONDITIONS

1. One year parts and labor warranty.
2. 30 days money back guarantee.
3. Knowledgeable and friendly sales rep. in service.
4. No return after 30 days.
5. S & H charges are extra and non-refundable.
6. Price and availability subject to change w/o notice.
7. Not responsible for typo.
8. Purchase orders are welcome & subj. to approval.

MULTIMEDIA
SYSTEMS
Sound Blaster
VIDEO BLASTER
Microsoft WINDOWS

Expand your capabilities and extend the possibilities with the *EXCLUSIVE* line of multimedia systems from Bold Data.

Dressed in chic and elegant cases, they liven up your everyday computing with sound and video, in addition to text and graphics. And yet, they represent an unmatched value in the stretched budgets of the 90's.

Open up your PC gates to capture your favorite photographs and neatly organize them in an electronic album. Utilize this custom-built library to create your own new applications or simply dazzle your audience with a dynamic presentation. You may even step up to the thrills of the full-motion PC video editing or simply compute, scan, write, illustrate, work, play, learn or teach... on a whim!

So, come alive in the era of multimedia and enjoy the excitement of multidimensional computing with the *EXCLUSIVE* systems from Bold Data.

MICROSOFT™
WINDOWS™
COMPATIBLE

MPC2™
Multimedia PC

intel inside®

BOLData
SYSTEMS
1-800-923-BOLD Fax: 510-490-9428

The Intel Inside logo is a registered trademark of Intel Corporation.

Expand Your Capabilities. Extend The Possibilities.

Compare the Quality, Features, Price and Performance.

We will custom-configure any computer per your specifications. We use only the best parts and our service is second to none. Systems featured on this page are the most popular configurations. Call us today for your own EXCLUSIVE system and compare the difference!

CD ROM TITLES INCLUDED!

Desktop

- Intel 80486DX/33 CPU (DX2/50 optional)
- Motherboard with 256KB cache
- 4 MB memory expandable to 32 MB
- TEAC 1.2 MB + 1.44 MB FDD
- Maxtor 215 MB HDD
- IDE/FDD controller with 2 serial, 1 parallel, 1 game ports
- SVGA card with 1MB of memory
- Infinity 14" monitor, 1024 x 768, .28dp., N.I.,WITH SPEAKERS
- Mitsumi CD-ROM drive
- Soundblaster compatible sound card
- 101-Key keyboard and Mouse
- MS-DOS 6.0 + MS-Windows 3.1

$1,789

$1,699

Multimedia

- Multimedia case WITH BUILT-IN AMPLIFIER & SPEAKERS (5W/ channel)
- Convenient front-panel volume control, headphone, and microphone jacks
- Intel 80486SX/33 CPU
- VL-Bus motherboard with 256KB cache
- 4 MB memory expandable to 32 MB
- TEAC 1.2 MB + 1.44 MB FDD
- 170 MB HDD
- IDE/FDD controller with 2 serial, 1 parallel, 1 game ports
- SVGA card with 1MB of memory
- 14" SVGA, .28dp monitor
- Mitsumi CD-ROM drive
- Sound Blaster compatible card
- 101-Key keyboard and Mouse
- MS-DOS 6.0 + MS-Windows 3.1
- FCC class B certified

$2,299

Mid-Tower

- Intel 80486DX2/66 CPU
- Motherboard with 256KB cache
- 4 MB memory expandable to 32 MB
- TEAC 1.2 MB + 1.44 MB FDD
- Maxtor 250 MB HDD
- IDE/FDD controller with 2 serial, 1 parallel, 1 game ports
- ATI Graphics Ultra-Pro SVGA card with 2MB of memory
- Infinity 14" SVGA monitor, 1024 x 768, .28dp., N./I. WITH SPEAKERS
- Panasonic CR-562B DOUBLE SPEED multi-session CD-ROM drive
- Soundblaster compatible sound card.
- 101-Key keyboard and Mouse
- MS-DOS 6.0 + MS-Windows 3.1
- FCC class B certified

$2,695

Full Tower

- Intel 80486DX2/66 CPU
- Motherboard with 256KB cache
- 8 MB memory expandable to 32 MB
- TEAC 1.2 MB + 1.44 MB FDD
- Maxtor 345 MB HDD
- IDE/FDD controller with 2 serial, 1 parallel, 1 game ports
- ATI Graphics Ultra-Pro SVGA card with 2MB of memory
- Panasonic CR-562B DOUBLE SPEED multi-session CD-ROM drive
- Proton 15" SVGA monitor, 1280 x 1024, .28dp, N.I., WITH SPEAKERS + headphone output
- Video Blaster w. Video for Windows (optional)
- Intel Smart Video Recorder (optional)
- Imagepals Image-Capture software (optional)
- Soundblaster 16 sound card
- 101-Key keyboard and Mouse
- MS-DOS 6.0 + MS-Windows 3.1

Prices subject to change without notice.
® 1993. BOLD DATA SYSTEMS. Intel & Intel Inside logo are registered trademarks of Intel Corporation. All other names are properties of their respective owners.

BOLData SYSTEMS

Call 1-800-923-BOLD Fax: 510-490-9428

UNPARALLELED POWER

VESA LOCAL BUS

Plus 128K CACHE

ACOM's VESA Local Bus notebook applies an exclusive 32-bit VESA local bus VGA and IDE technology which runs your Windows graphics 600% faster than any other notebooks. Its built-in 128KB and 8KB burst cache transfer data at 500% faster than conventional DRAM. With this VESA Local Bus notebook, you will definitely enjoy an unparalleled power and success.

Specification:

- 10" Non-Glare Screen in **TFT** Active Color, Dual Scan, or 64 GS Monochrome
- 486DX*-33 or 486DX2*-66MHz CPU with Built-in Math-Coprocessor
- Fast 128KB **Cache** (Plus 8K Burst Cache)
- Fast 32-Bit **VESA Local Bus Video** Display
- Fast 32-Bit **VESA Local Bus IDE** Controller
- [illegible] to 8, 12, [illegible] or 20MB
- 130MB HDD (258MB/344MB/540MB Opti
- Built-in 3.5" 1.44MB Floppy Drive
- [illegible]
- Simultaneous External CRT Display
- [illegible] **TrackBall**
- 86-Key Reverse-T KeyBoard with Palmrest
- Doze/Sleep/Suspend Power Management
- 2 **PCMCIA** [illegible]
- Serial, Parallel, Ext. KB, SVGA, & Mouse Ports
- 200-Pin Connector for VESA-Docking Station
- 2HRS to 4HRS Battery Life & AC/DC Adapter
- Microsoft DOS 6.2 & Carrying Bag
- 11"(W)x8.6"(D)x1.77"(H); 6 lbs with Battery

VESA-4000

VESA LOCAL BUS DOCKING STATION

14.5"(W)x14.5"(D)x4.9"(H)
2x32-Bit VESA L-B Slots
1x16-Bit ISA Slots
Built-in SCSI Controller
1x3.5" HDD Bay
1x5.25" HD or CD-ROM Bay
2S, 1P, KB, & SVGA Ports
2xBuilt-in Stereo Speakers
Platform for Ext. Monitor

San Francisco

MDS International
3210 Geary Blvd.
415-750-0863

AT Computer, Inc.
57 Sutter Street
415-898-5757

Santa Rosa

Computers & More
320 W. 3rd St., Ste# F
707-579-1122

Berkeley

Computer Link
2324 Shattuck Ave.
510-540-8283

Richmond

Evergreen Computers
2700 Rydin Rd. Ste# C
510-526-8667

American Canyon

Advantage Computer
140 Dodd Court
707-648-8100

Santa Clara

TechnoLand
3485 Kifer Road
408-992-0888

Pleasanton

Micro Age
5690 Stoneridge Dr.
510-463-2263

Acom

Acom, Inc.
3270 Scott Boulevard
Santa Clara, CA 95054
Tel: (408)727-8577
Fax: (408)727-5907

[illegible] returns must have R.M.A. numbers issued by ACOM Service Department. Freight, insurance, [illegible] and trademarks belong to their respective companies. ACOM is not responsible for typographical [illegible]

Downsizing Hapless

Surviving The PC/Workstation Convergence

BY BENNETT FALK

RESOURCES:

MKS Toolkit
Mortice Kern Systems
35 King St. North
Waterloo, Ontario,
Canada N2J 2W9

eXceed/W:
Hummingbird
Communications Ltd.
2900 John St., Unit 4
Markham, Ontario,
Canada L3R 5G3

FrameMaker
Frame Technology
Corp.
1010 Rincon Cir.
San Jose, CA 95131

PC Eudora
Send email requests
to pc-eudora-
info@qualcomm.com

UNIX

Copyright © 1994 by Bennett Falk. All rights reserved.

It had taken nearly ten years, but Hapless User had achieved the blissful self-assurance that comes with being a proficient user of UNIX.

He had started slowly, with only an ASCII terminal connected to a modestly sized computer that he shared with five other people in his department. UNIX had seemed alien at first, but he persevered and gradually taught himself how to use awk, grep, csh, and sed. He also learned how to maneuver around the network to other UNIX machines in other departments, and he became competent at moving files back and forth between machines.

His department prospered. The modestly sized UNIX computer was replaced by a larger, more powerful model. Hapless was given a second ASCII terminal, and he learned to use the modems attached to the new computer to send and receive files.

His department continued to prosper, and soon a workstation replaced the ASCII terminals. The command line interface he'd grown fond of was replaced by a crude window-based display manager, which was, in turn, replaced by Xwindows. Hapless mastered the art of cutting and pasting between windows, and, more importantly, he learned to edit setup files.

More prosperity brought new gadgets: color monitors, local disks, a modem on his own desk, and finally, more memory. It also brought more people. The department grew, and all of Hapless's coworkers had workstations similar to his.

Somewhere along the line the software tools Hapless used grew up as well: on his desktop workstation he ran an assortment of client programs with whizbang user interfaces that retrieved data and services from across the network.

Hapless was happy.

ENTER THE ALIEN

And then one morning he arrived at work to find a stack of boxes outside his office door. At noon, a computer systems technician appeared and started unpacking Hapless's new PC. As Hapless returned from lunch, he caught a glimpse of his UNIX workstation, now loaded on a cart with several others, disappearing into the freight elevator. The new color monitor on his desk displayed a "C>" prompt.

He phoned his manager.

"Well, the department has to downsize," he was told, "and we thought it was better to cut the hardware budget than lay people off. We're cutting the cost per seat to keep all the seats we can."

Hapless winced and hung up. He took a quick inventory: His new desktop computer was a 486 machine with 16MB of memory and a 400MB hard disk. It had an Ethernet card, a 16" color monitor, and a CD-ROM drive. A tour of the disk showed that Windows 3.1 and a TCP/IP network package were installed.

THE WEEK OF RESTORING FUNCTIONALITY

He looked at the network installation, found a hosts file and ping.exe, and decided to test his access to the network. Ping failed miserably. He looked through his stack of manuals and found nothing for the network software. He phoned around in the department, finally locating a copy of the manual. An hour later, he had narrowed the problem to a faulty IRQ number for the Ethernet card in a ".ini" file. He called computer support to inquire about the proper setting. "What's an IRQ?" asked the voice on the other end of the line.

He set off to look at other PCs in the vicinity, and quickly found one that was configured to use a different IRQ for the Ethernet card. By the end of the first day of downsizing, he could use ping and ftp and telnet to reach the UNIX hosts on the network.

Fortunately there were UNIX hosts on the network. Hapless realized quickly that the PCs in his department had access to a very large UNIX system that could be used as a file server, print server, and network gateway. His first successful telnet session felt suspiciously like his first UNIX login ever. He realized that he hadn't checked his mail all afternoon and spent the last hour of the day going through forty mail messages.

The next morning he dug out an ancient copy of the MKS Toolkit and installed it. This gave him a DOS implementation of many UNIX commands and kept him from losing his temper when he typed "ls" instead of "dir" to get a directory listing. Soon he had a window in which the MKS Korn Shell was running locally on his machine. It just felt better than using the Windows File Manager.

Hapless was beginning to get accustomed to the behavior of the new machine, and he liked some of the software that he could run locally. However, he still had to establish a telnet connection to the file server to read his email.

Installing Xwindows on his PC might be just the thing, Hapless decided, and he found that his department was licensed for eXceed/W from Hummingbird Communications Limited. eXceed/W is an Xwindows implementation for PCs that uses MS-Windows as a window manager, and this allows native Windows applications and Xwindows applications to coexist (and occasionally interact) on the same desktop. eXceed/W was relatively easy to install, and by the end of the second day, Hapless was using his favorite Xwindows mailtool and calendar manager from the PC. More to the point, however, he could now use from his PC the Xwindows-based client programs that gave him access to data and other resources throughout the network.

Impressed with the success of his Xwindows installation, Hapless turned to other applications on the third day of downsizing. The department's UNIX system had the FrameMaker word processing system installed. Hapless set up FrameMaker to drive the X server on his PC and was soon using the Frame from his PC to edit his work in progress on the UNIX system.

The combination of the UNIX FrameMaker software driving the Xwindows display on his PC seemed slow to Hapless, though he couldn't think of any rational reason for this.

Inquiries were made, and on the fourth day of downsizing, Hapless acquired a copy of Frame for Windows. This was also easy to install, and the performance was much better. Hapless soon realized, however, that all the files he needed to work on were still on the UNIX server.

He used FTP to transfer a few files to his PC. When he loaded them into the PC version of FrameMaker, it was clear that this was a newer release than that in use on the UNIX system. For fun, he edited one of the files, saved it, and transferred it to the UNIX server. As expected, the older version wouldn't load the new FrameMaker file, and Hapless made a mental note to request an upgrade to the new version for the UNIX server.

Hapless also tried without success to print files from his PC to the printer attached to the UNIX server. The best he could do was set up the Windows printer driver to produce an encapsulated PostScript File which he would then transfer to the UNIX server with FTP and print with lpr.

At the end of the fourth day, he borrowed the department's copy of the network software manuals and took them home to figure out how to set up the printer and how to make filesystems on the UNIX server accessible from his PC.

By the morning of the fifth day, Hapless knew how to set up his PC's control panel and ".ini" files to address a network printer and to mount filesystems from the UNIX server. Confident that he would be able to print without incident, he launched a 20-page document to the print queue. When he checked the printer, it had spit out roughly half a ream of paper containing the PostScript source code for the file Hapless was trying to print.

Calls to the computer support group elicited a few suggestions for modifying the win.ini file and the suspicion that there was something wrong with the printer driver Hapless had selected. Hapless edited win.ini, but the printer continued to print PostScript source. Finally, on the theory that PostScript is PostScript, Hapless selected at random another printer driver that supported PostScript. Almost magically his job printed.

In the afternoon, he set up the network software to provide access to the UNIX filesystems that contained his files. This worked flawlessly the first time he tried it, but he soon discovered that most of his UNIX files and directories had names that violated the eight-letter-file-name-with-a-three-letter-extension convention used by DOS and Windows.

LEARN TO MASTER NETWORKING.

Novell Authorized Education Centers teach you the skills necessary to get the maximum performance from NetWare. The Evernet Education Advantage adds the finest instructors and best equipped classrooms. This combination gives you an outstanding learning experience...with your satisfaction guaranteed!

BECOME A

CERTIFIED NETWARE ENGINEER (CNE)
- Learn Service and Support
- Connectivity Classes
- Networking Technologies
- NetWare 3.1x and 4.0 Available

SYSTEM ADMINISTRATOR
- Learn LAN Fundamentals
- NetWare 3.1x Administrator and Advanced Administration
- NetWare 4.0 Administrator and Advanced Administration
- 3.11 to 4.0 Updates
- Installation Workshop

We Guarantee Our Training!

CALL TO REGISTER
800-447-3658

EVERNET EDUCATION SERVICES
Los Angeles • San Francisco • Sacramento •

Novell Authorized Education Center

LOS ANGELES AIRPORT: 5777 West Century Boulevard, Suite 1695, CA 90045
SACRAMENTO: 9851 Horn Road, Suite120, CA 95827
SAN FRANCISCO: 100 Spear Spear Street, Suite 340, CA 94105

File

Monitor & Terminal Repair Specialist

• IBM • Macs • SVGA • VGA • CGA • EGA • Monochromes • Multi-Syncs

advantix inc

REDWOOD CITY 1757 East Bayshore Rd. Suite 22

Factory Authorized Repair Center

Samsung • Zenith • Radius

• FREE TUBE REJUVENATION
• FREE ESTIMATE • FREE DEGAUSSING
• VOLUME DISCOUNT AVAILABLE • LOANERS AVAILABLE

One Year Warranty On Any Repaired Unit(s)

Tel 415 • 363 • 1225 Fax 415 • 363 • 0685

1 800 • 553• 5703

Edit

Printers, Desktops, Laptops & PC's Repair Specialist

We Deliver And Install

One Year Warranty On Any Repaired Unit(s)

ComputerCare

MOUNTAIN VIEW 2455 Old Middlefield Way, Suite M

Authorized Repair Center OKIDATA EPSON
HEWLETT PACKARD COMPAQ TOSHIBA IBM Business Partner

• Tel 415/967-8186 • Fax 415/967-6945

• 1 800 67/CARE/4
2 2 7 3

Computer Rescue
Staffed with highly skilled, qualified technicians, ComputerCare will diagnose and treat your machine's problem accurately and promptly.

Warranty Service
ComputerCare provides warranty and post warranty service.

Service Contracts
We loan you equipment while we repair yours. Please call us for a plan customized to best suit the needs of your company

Other Services Available
- In Shop Service
- On Site Service
- Overnight service

> **As Hapless returned from lunch,** he caught a glimpse of his UNIX workstation, now loaded on a cart with several others, disappearing into the freight elevator. The new color monitor on his desk displayed a "C>" prompt. He phoned his manager.

The network software attempted to translate these names into something meaningful and also to indicate which file names had been modified. Some applications on the PC, however, would fail to navigate through the UNIX filesystem if the directory names were long: at a certain point, the application would refuse to move any further down in the directory hierarchy. Finally, Hapless resolved to build a hierarchy of UNIX directories and files that observed the DOS naming conventions.

At the end of the fifth day, Hapless could use PC applications to work with files on the UNIX file server. He noted with some satisfaction that everything on the UNIX machine was backed up regularly, and in leaving his work there he avoided the need to schedule regular backups for the PC's local disk. Additionally, if he needed to work from home, files left on the UNIX file server would be accessible via modem. Hapless began to think that he might someday be able to do his job again.

On the morning of the sixth day, one of Hapless's coworkers showed up with a diskette containing a PC/Windows version of the "Eudora" mail program. Eudora was originally developed at the University of Illinois at Urbana Champaign by Steve Dorner. The PC implementation was done by two guys named Jeff (Beckley and Gehlhaar) at Qualcomm in San Diego.

Hapless installed Eudora and was generally pleased with its handling of folders for saving mail. He stopped using the UNIX-based mailer almost immediately and started building a new empire of mail folders using the Eudora conventions. Eudora was able to handle messages encoded according to the MIME standard, and shortly Hapless was able to send and receive messages with binary files attached to them. Things, he thought, are looking up.

On the seventh day, Hapless thought about all the things he had done during the week. He wondered briefly if all this novelty could really be cost-effective, and then he asked for a raise. ■

BAR CODE IS OUR SPECIALTY

INPUT AUTOMATION, INC.

The single source for all your bar code system needs: hardware, software, consulting and system design. Our philosophy is based on two principles: high-quality industrial products, and the best technical support available.

DESIGN AND CONSULTING

To create your optimal solution, an Input Automation consultant will design a complete system, and then recommend equipment that fills your exact needs.

INPUT automation, inc.
Authorized Value-Added Distributor

We will not be satisfied until our bar code system meets your demanding standards.

Call today for free info.& product information

(Dealer inquiries welcome)

Call for an appointment to see our Showroom

Southern California
Tel: (310) 539-3598
Fax: (310) 530-2849
Tel: (714) 374-4511

Northern California
Tel: (510) 685-6563
Fax: (510) 685-2513

Bar Code Label Printers, Software, and Supplies

Laser Scanners. Omnidirectional, hand-held/hands-free, fixed mount.

Portable Data Collection Terminals

Welch Allyn bar code readers/scanners. Over 15 years leadership in bar code manufacturing.

Visa & M/C Accepted

© 1992 Copyright Input Automation, Inc. All rights reserved. All product names mentioned are trademarks of their respective manufacturers. Input Automation, Inc. recognizes these trademarks

Our Computers are Faster, More Efficient, & Less Expensive!
Come See the Computer Specialist Since 1979

FASTER THAN FAST

Special VESA Machine

- INTEL 486DX-33
- 4MB RAM
- 5.25" and 3.5" Floppy
- 250MB Hard Drive
- Local Bus VESA Turbo IDE Windows accelerator extra fast
- VESA Monitor
- Green PC Includes: Energy star power supply, automatic monitor shut off & power down hard drive
- Special Software Bundle
- DOS 6.2, Windows 3.1, & Mouse
- On-Site Service

intel inside

WORD PERFECT 6.0
SEE IT FAXED DIRECTLY
FROM THE PROGRAM!
UPGRADE ONLY $129

$1799
w/ad exp. 4/4

GREEN PC

energy
EPA POLLUTION PREVENTER

PC Upgrades

Upgrade your Leading Edge or any computer to 386DX-40 ....$399
245MB Hard Drive Upgrade for as low as $200*
120MB Hard Drive Upgrade for as low as $100*

* with exchanged core

VIDEO TOASTER 4000

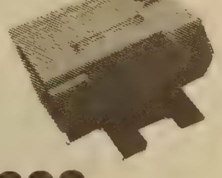
SUPER TOASTER ON DEMO & IN STOCK

Newtek Authorized

Create broadcast quality television on your desktop!

Revolutionary technology lets you print stunning, vivid color on any paper

Phaser IIIPXi

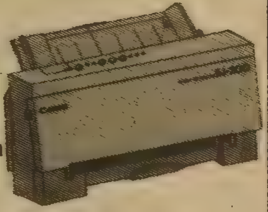


- Postscript
- Pantone Certified
- Prints on any paper or transparency film
- Pennies per page

Tektronix
The best and the brightest

$6999 While Supplies last!

Canon
Bubble Jet 200e



Why buy the old Bubble Jet 200 from a chain store, when you can buy the 200e at Winners Circle for the same price. Faster & better!

TEXAS INSTRUMENTS
MicroWriter

- 5PPM Speed
- 2MB RAM
- 300dpi quality
- PLC 4
- Parallel

$599

TEXAS INSTRUMENTS
Win4000e

- 486SX-25
- Color Display
- 4MB RAM
- 120MB Hard Drive

$2199

Special Savings from the Largest Atari Dealer in the World

ATARI

50% off List on all Software with this ad!

exp. 4/4/94

AMIGA CD-32

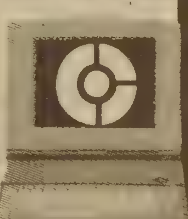
- Full Motion Video
- 16.8 Million Colors
- CD Quality Sound
- If your friend buys it first, you'll feel sick

$399 in stock

Best Notebook-Byte Magazine

- 486DX-33 Upgradable to DX2-66
- 2 PCMCIA 2.0 Slots
- 32-Bit Local Bus
- 120MB Hard Drive expandable
- 4MB RAM exp. to 20MB

Docking Station Available for $599



$1899

FEATURING TOP RATED SERVICE

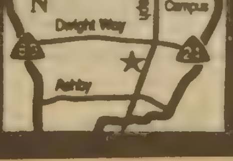
- Friendly, Knowlegeable Staff • Full Time Tech Support
- In-House Authorized Repairs • Free Public Domain Software • Free Training

PRODUCT SELECTION

- Top-Rated Major Brand Computers and Printers • CD-ROM • Tape Backup
- Laptop Computers • Modems and Fax Machines • Large Selection of Software & Accessories
- Color Desktop Publishing

WINNERS CIRCLE SYSTEMS

2618 Telegraph Ave. • Berkeley, California • 510-845-4814 • Fax 510-845-2400
Hours: Monday Thru Saturday 10:00-6:00



MULTIMEDIA SPECIALIST

FREE Installation on these products below!

EPA POLLUTION PREVENTER

Green PC Available

PANASONIC CD-ROM 562B **$380**
DOUBLE SPEED
320ms, 300K/S • SoundBlaster Pro 16 Basic (New)
CD Software Bundles - 6 Titles • Speakers

TOSHIBA CD-ROM 3401B **$550**
DOUBLE SPEED
200ms, 330K/S • SoundBlaster Pro 16 SCSI II (New)
CD-Encyclopedia Included • Speakers

ARSYS AIR MICRONICS DIAMOND TECHNOLOGIES ORCHID

Tech Trend Delivers:

1. Lifetime Labor Warranty, 1 Year Parts
2. Lifetime Technical Support
3. We use only Brand Name Motherboard & Components
4. On-Site Service Available
5. Knowledgeable & Helpful Staff
6. No Surcharge for Credit Cards

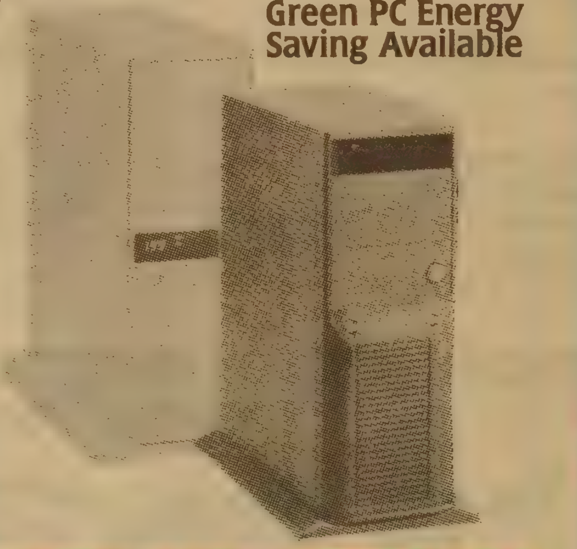
True VESA Local Bus System

intel inside

- 486 Motherboard w/3 VESA Local Bus Slots & 256K Cache
- Intel CPU with CPU Fan, Pentium Upgradeable
- AMI/SIS Chipset
- 4MB RAM expandable to 32MB
- TEAC 1.2 & 1.44MB Floppy Drives
- 340MB Conner 12ms Hard Drive
- Spider Plus VLB SVGA Card with 1MB Exp. 2MB-16 Million colors
- 14" Non-Interlaced .28 SVGA "Full Screen" Monitor
- Turbo VLB IDE I/O Controller w/2S, 1P, 1G
- Mid Tower Case 230W power supply, with Secured Door
- 101 Enhanced Keyboard
- Logitech Mouse
- Lifetime Labor Warranty On All Systems

VLB 486DX-33 /256K............$1399
VLB 486DX-50 /256K............$1549
VLB 486DX2-66/256K $1625

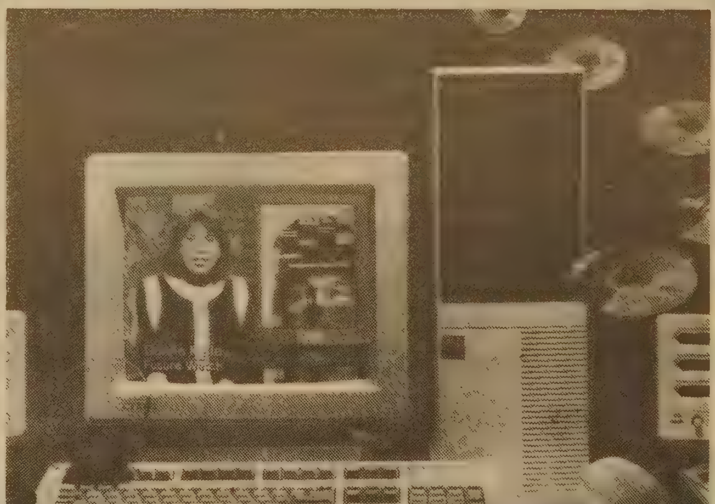
Green PC Energy Saving Available



200E
280E
650E
650E/2
850E
55E

Complete Networking Services - CNE On-Site

Multi-Media Package & True VESA Local Bus System



- 486 Motherboard w/3 VESA Local Bus Slots & 256K Cache
- Intel CPU with CPU Fan, Pentium Upgradeable
- AMI/SIS Chipset
- 4MB RAM expandable to 32MB
- TEAC 1.2 & 1.44MB Floppy Drives
- 340MB Conner 12ms Hard Drive
- Spider Plus VLB SVGA Card with 1MB Exp. 2MB–16Million colors
- 14" Non-Interlaced .28 SVGA "Full Screen" Monitor
- Turbo VLB IDE I/O Controller w/2S, 1P, 1G
- Mid Tower Case 230W power supply, with Secured Door
-101 Enhanced Keyboard
- Logitech Mouse
- Lifetime Labor Warranty On All Systems

Multi-Media Package Includes:

- Panasonic, CD-ROM, 320ms, 300K/S, w/Photo CD Multisession
- Diamond Sonic 16-bit Stereo Multi-media Sound Card w/Speakers
- CD Software Bundle with 6 Titles

VLB 486DX-33 /256K..$1775
VLB 486DX-50 /256K..$1925
VLB 486DX2-66/256K $1999

Brand Name Components
UPGRADES WHILE YOU WAIT!

Monitors

NEC 3FGe 15" 1024x768	$CALL
NEC 4FGe 15" 1024x768	$CALL
NEC 5FGe 17" 1024x768	$CALL
NEC 5FG 17" 1280x1024	$CALL
NEC 6FG 21" 1280x1024	$CALL
Viewsonic 6e 14" 1024x768	$CALL
Viewsonic 15 15" 1280x1024	$CALL
Viewsonic 17 17" 1600x1280	$CALL
Viewsonic 20 20" 1600x1280	$CALL
Viewsonic 21 21" 1600x1280	$CALL

VGA Cards

Spider VLB w/1MB	$89
Spider Plus VLB w/1MB	99
Spider Black Widow VLB w/1MB Vram	195
Orchid Fahrenheit VLB 1MB	145
Orchid Fahrenheit VA/VL 1MB	195
Diamond Speedstar pro 1MB	110
Diamond Stealth Pro 1MB	245
Diamond Viper VLB P9000 2MB	375
ATI Ultra Pro 2MB	365

Multi-Media

Toshiba XM-3401B SCSI Int	$339
Sony CD-ROM 31A	139
Panasonic CD ROM 562B	195
Gallant Sound Card SC5000	105
Gallant Sound Card SC6000	145
Speaker (80W) White/Black	80
CD Software (6 Titles)	75

Modems

Fax/Data Modem 96/24 Int	$50
Fax/Data Modem 96/24 Ext	55
Fax/Data Modem 14400/ 14400 Int-GVC	125
Fax/Data Modem 14400/ 14400 Ext-GVC	145

Cases

Mini Tower w/230W	$45
Mid Tower w/230W	65
Full Tower w/230W	95
Mid Tower w/Door 230W	92
Full Tower w/Door 250W	110
Mid Tower Black 230W	95
Full Tower Black 250W	115

Miscellaneous

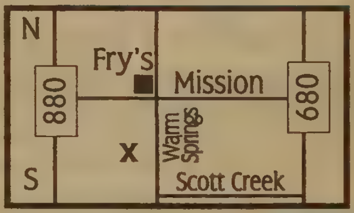
Full Page Scanner 600dpi	$475
Colorado Tape Backup DJ-20	165
Teac 1.2 Floppy Drive	45
Teac 1.44 Floppy Drive	40

Memory ♦ Hard Drive ♦ CPU
Please Call for Updated
Hard Disk/CPU/Memory Prices

TTI Tech Trend, Inc.

48501 Warm Springs Blvd. Suite 106
Fremont, CA 94539
(510) 440-8324 ♦ Fax (510) 440-8326
Fax Hotline (800) 275-8324

Mon-Fri: 10:30-7:30PM
Sat-Sun: See Us at a Local Computer Show Near You



VISA ATM

NO SURCHARGE

Prices are Subject to Change without Notice
Not Responsible for Typographical errors

TTI

Business Via The Phone Lines:

Computer Security Considerations

BY A. LIZARD

Special considerations apply to a business that does its communications and information handling in a large number of individual sites, connected via the dial-up telephone network. They are particularly relevant to any business or organization that uses a telecommuting workforce, particularly when the business is highly competitive and involves lots of proprietary information.

Most businesspeople are too ethical or too smart to tolerate an attempt to use electronic espionage on a competitor. In the great majority of cases, keeping people from "reading your mail" by accident and remembering to lock the house when you leave is adequate security; for genuinely critical communications, trust digital encryption.

PHYSICAL SECURITY

Don't forget the low-tech approach to data security. A black bag job at someone's home or office might be the easiest way for an intruder to get into your files. If you've got critical business info, lock your house or office when you leave, and turn on the alarm when you do. Buying a burglar alarm is a good idea.

One good passive measure is to use a video camera and VCR or a movie camera with a time lapse attachment to monitor a room continuously whenever it's supposed to be empty.

Password or electronic passkey protection is a good idea; so is setting up the system so that you can boot only from a specific key disk. However, if you depend on a physical computer key of whatever nature, take care of it as you do your house key, and know that the keylock power switches built into some computers can be easily bypassed. Don't write your password down; don't use easily guessed words like PASSWORD or your own name; don't use the same password on multiple systems. Also note that most software password protection schemes can be bypassed by booting from a generic system floppy.

The best way to secure your data against loss (burglary, fire, a HD crash) is to back up your data and place an archival copy of your backups offsite, in someone else's home or a bank vault, depending on how critical the data is.

Packages that will digitally encrypt the whole of your hard drive for the home / office may cause more difficulties than they solve. Compatibility with compressed files may be a problem; also, the encryption will greatly reduce the recoverability of your data files in the almost-certain event of a disk crash.

ELECTRONIC INTRUSION VIA MODEM

A "black bag" job is possible via telecommute: a person hacks into your system, gets what he wants, and leaves, perhaps having added viruses, Trojan horses, or backdoors for easier access to your system.

First, this is only possible if the computer in question is attached to a modem plugged into a phone line and left on continuously in "host mode" or remote control access mode (e.g. with Timbuktu/Mac or PC Access/DOS) or as a BBS.

So the BBS used for your business might be a target, and your home or office computer is if it is left on in host mode.

If your BBS is for the use of the employees only, replace the conventional WELCOME start-up screen with (business name) PRIVATE BBS, UNAUTHORIZED USERS WILL BE PROSECUTED. Put people on notice that your system is private property and trespassers are unwelcome. Set your system to answer after four or five rings; most "wardialers" (programs used to locate online computer systems by dialing down the phone numbers within a prefix and logging the ones that answer with modem tone) will ignore systems that don't answer on the first or second ring. Let legitimate users know you did this so they can set the delay on their comm programs to compensate.

Consider software that will receive a logon from a legitimate user and dial that user back at the phone number that the system has on record. If the user is in the field, this function might be counterproductive; it might be possible to use a more complex logon procedure, e.g. passwords changed by the system admininstrator daily with a list of daily passwords in the hands of the person in the field. This is a classic illustration of the conflict between security and efficiency.

Some communications server software has "trapdoors" intentionally or accidentally built in; it might be possible to get to the logon screen, type the right username/password, and get immediate "superuser" access. All you can do about this is to be vigilant for the traces of intrusion; if you have reason to suspect it, check the system logs (usually, they will tell you who logged on when and to a certain extent, what they did) and if there's a real problem, check the times on files that changed against the times people were logged in. This is done automatically as an "audit trail" function in the more sophisticated BBS communications packages; all the system operator has to do is to go into the right function and start reading the contents of the file. If, for instance, your problem is traced to a user who couldn't possibly have been logged in when the system says he was, you know you have an unauthorized access problem.

Make someone on your staff responsible for getting the latest anti-virals (Frisk F-Prot, McAfee SCAN and/or Dr. Solomon's Anti-Viral test kit, Disinfectant in the Mac environment) and distributing them to the organization. That same person should be responsible for making sure that the latest updates of either ViaCrypt or PGP encryption software are distributed to company staff. Remember that the next disk you buy or download or get passed to you by a friend or business associate can carry a virus that can do even more damage to your company's operations than the most determined attempts of your competition.

Many of these considerations also apply to commercial online services as well, the difference being that you will have less control over the situation.

Remember that in any electronic mail environment, the sysop/system administrators, and quite possibly, a number of other people have access to your electronic mail, and can view it at any time without your permission or knowledge.

Copyright © 1994 by A. Lizard. All rights reserved.

The BBS used for your business might be a target.

See that primary staff gets copies of RSA-based encryption software if they are communicating online through dial-up systems, and encourage everyone else on board to get it as well, (see below) especially if mail security becomes a problem.

DIGITAL ENCRYPTION/DECRYPTION PROGRAMS

Remember that any BBS or Internet node or online service that handles your message is in a position to intercept your message traffic. If RSA public key/private key encryption is used, this is not a problem, as any unauthorized parties who receive it must spend lots of money on supercomputers and expert programmers to read it. Very few, if any private organizations of whatever description have this kind of capability.

RSA Data Security in Foster City, the North American patent holder, offers a variety of custom-tailored enterprise-wide solutions, and also licenses its technology to such software vendors as Lotus (for Notes) and Apple (for System 7 Pro). The RSA-based products allow digitally encrypted messages, they also allow digital “signature blocks” of code, generated using the sender's private key and the message contents to allow the identity of the sender and the integrity of clear text messages to be positively identified. Note that encrypted messages also allow positive sender verification as well.

While its legal status remains uncertain due to RSA's patents and federal export restrictions, the ubiquitous PGP (Pretty Good Privacy) RSA-based private key/public key software is probably the best encryption application available that doesn't require spending money. It's freeware for non-commercial use; it is available via Internet and at some FidoNet and other BBS systems. The current version as of this writing is PGP23A.ZIP for DOS, a Mac version and a generic C version are available.

A properly licensed alternative comes from the ViaCrypt (Phoenix, AZ) version of PGP; ViaCrypt has an RSA license. Its introductory single user price is $100; quantity discounts are available. ViaCrypt can be reached at 602/944-0773.

ONLINE FINANCIAL TRANSACTIONS

If you accept electronic billing, know your vendors and be in a position to verify that the services/goods being paid for were actually received by your organization.

For authentication purposes, see that your vendors who bill electronically have an RSA-type public key/private key application; require that digital signature blocks be part of each invoice and that these blocks be verified.

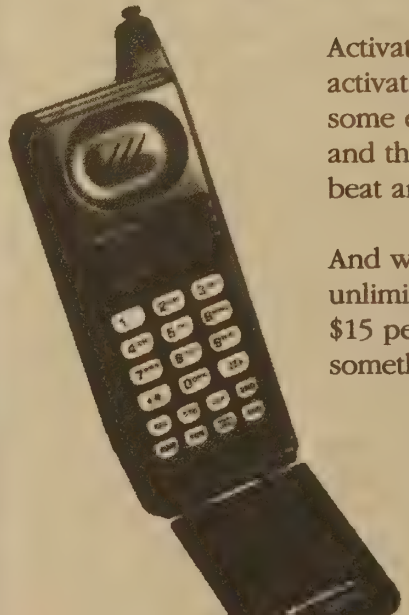
Your payments will ordinarily be going out via paper check, and your accounting will presumably be done via standard accounting packages, which are outside the realm of this article.

The ultimate solution comes from new standard protocols for ordering/tracking goods between vendors and manufacturers using EFT (Electronic Funds Transfer). The applications allowing you to do this are just hitting the market, they are expensive, and very few organizations outside the Fortune 500 are set up to use them.

YOUR COMPUTER ON THE AIRWAVES

Is your computer #1 on the local industrial spy's hit parade? Your computer puts out particular kinds of RF noise every time you hit

continued on page 263



No Activation Fee!

Activate your phone before March 31 and pay no activation fee (a $25 savings) ! We currently have some exceptional values on the new Uniden 4600 and the entire Motorola line. Remember we will beat any currently advertised price!

And with rate plans as low as $25 per month and unlimited weekend calling for only an additional $15 per month (1st month free), there really is something for everyone.

Motorola 550
Our #1 selling phone
$229.95

Uniden 1900 Full 3 watt transportable for your car or boat. $149	**Fujitsu PCX** The world's smallest phone. Complete with built in pager and answering machine $479
Uniden 4600 Light weight handheld unit with a 100 number alphanumeric memory. $169	**Motorola 950** The next model up from the 550. Comes with 100 number alphanumeric memory. $269

PBE CELLULAR

Call for the lowest possible price on any phone
1-800-992-3687

GTE Mobilnet®
Get Mobilized

All rates and information subject to change without notice. All prices are indicitve of a $25 in-store rebate with GTE Mobilnet activation. Some restrictions apply.

Special Government, Education, and Hospital Pricing from Major Manufacturers:

Financing Available
90 Days
same as Cash

The Corporate Specialist

486DX-66 256K VESA LOCAL BUS 4MB RAM/250MB HD SVGA SYSTEM

- 4MB RAM/250MB Hard Drive
- Touch SVGA Monitor 1024x768 .28 NI
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1439

486DX-50 256K VESA LOCAL BUS 4MB RAM/250MB HD SVGA SYSTEM

- 4MB RAM/250MB Hard Drive
- Touch SVGA Monitor 1024x768 .28 NI
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1379

486DX-33 256K VESA LOCAL BUS 4MB RAM/250MB HD SVGA SYSTEM

- 4MB RAM/250MB Hard Drive
- Touch SVGA Monitor 1024x768 .28 NI
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1239

386DX-40 128K 4MB RAM/200MB HD SVGA SYSTEM

- 4MB RAM/200MB Hard Drive
- Touch SVGA Monitor 1024x768 .28 NI
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$849

MONITORS

Touch 14" SVGA .39	$195
Touch 14" SVGA .28	235
Touch 14" SVGA .28NI	255
Touch 15" SVGA .28NI	365
NEC 3FGE	595
NEC 3V 15"	525
NEC 4FGE	695
NEC 5FGE	1085
NEC 5FGP	1225
NEC 6FSP	2345

COMPAQ

Authorized Dealer
3 Year On-Site Warranty

Contura Aero 486-25 4/170	$CALL
Contura Aero 486-33C 4/170 & 4/250	CALL
Contura 486-25 4/120	1699
Contura 486-25C 4/209	2575
Compaq Concerto 486-25 4/120	2375
Compaq Concerto 486-33 4/250	2909
Prolinea 486-25S 4/120	1025
Prolinea 486-33 4/240	1455
Prolinea 486-50 4/240	1675
Prolinea 486-66 4/340	1985
DeskPro XE All Models	CALL
ProSignia All Models	CALL
ProLiant 1000/2000/4000	CALL
PageMarq 15 Printer	1975
PageMarq 20 Printer	2995

HEWLETT PACKARD

Authorized Dealer

DeskJet 500	**$285**
DeskJet 500C	**389**
DeskJet 550C	**479**
DeskJet 1200C	**CALL**
DeskJet 1200C/PS	**1889**
LaserJet 4L	**689**
LaserJet 4P	**969**
LaserJet 4	**1399**
LaerJet 4ML	**1039**
LaserJet 4si	**2875**
Portable 310	**329**

TOSHIBA

T1910CS 4/120	$2075
T1950 4/120	1870
T1950CS 4/200	2625
T1950CT 4/200	2955
T3400 4/120	2195
T3400CT 4/120	3305
T4600C 4/200	3935
T4700CS 8/200	3825
T4700 CT 8/340	4750

IBM

ThinkPad 350 4/125	$1995
ThinkPad 350C 4/250	2995
ThinkPad 500 4/170	2475
ThinkPad 750 4/170	3210
ThinkPad 750C	CALL
ThinkPad 750CS	CALL
IBM Value Points	CALL

NEC

Ultra Lite VERSA NoteBooks

VERSA 486 DX2-40 4/120	$2525
VERSA 486 DX2-40C 4/120	3750
VERSA 486 DX2-40C 4/250	4150
VERSA 486 DX2-50 4/209	3195
VERSA 486 DX2-50C 4/209	4395

Texas Instruments

TM 4000E WIN SX-25 Mono 4/120	$1835
TM 4000E WIN SX-25 Color 4/120	2085
TM 4000E WIN DX2-40 Color 4/200	2645
TM 4000E WIN DX2-50 Mono 4/200	2630
TM 4000E WIN DX2-50 Dual Scan 4/200	3195
TM 4000E WIN DX2-50 Active 4/200	3695

Avanti

486-25SLC Color, 24/96 Modem, DOS, Windows

4/120	$1950
4/200	2140

Call for other Models

PRINTERS

OKIDATA	
OL 400E	$525
OL 810	899
OL 830+	1099
OL 850	1199
CANON	
BJ 10ex	$245
BJ 200	299
BJC 600	599
EPSON	
Action Laser 1000	$599
Action Laser 1500	679
Action Printer 3250	189
Action Printer 2250	139

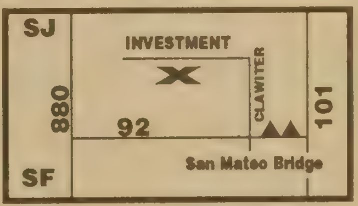
CALIFORNIA COMPUTER CO.

The Corporate Specialist

(800)308-3850
(510) 785-3850
Fax (510) 783-5128
Government, Education, Hospital & Corp. PO's Accepted

- PRICES REFLECT CASH PRICES

Prices Subject to Change Without Notice. • Not Responsible for Typographical Errors.
Logos are Property of Their Respective Companies



3401 Investment Blvd. #3
Hayward, CA 94545
Hours: M-F 9:30-5:30
By Appointment Only

On The Internet?

The Services And Resources Available On The Internet Are Designed To Facilitate Collaboration

BY JOHN S. QUARTERMAN

RESOURCES:

FTP Software, Inc.
2 High St.
N. Andover, MA 01845
(508)685-4000

InterCon Systems Corp.
950 Herndon Pkwy., #390
Herndon, VA 22070

What do people really want when they talk about being "on the Internet"? The recent barrage of major stories in publications such as *Time, Fortune, US News & World Report,* the *New York Times,* and other newspapers form the basis for what many new users know about the Internet. From those stories, it often appears as if the Internet is mostly a confusing place where you can communicate with people, which is accurate as far as it goes.

When people come to our consulting firm asking to get on the Internet, typically about 80% of them are most interested in being able to send and receive electronic mail. That's easy to accomplish, since mail is the most common service both on the Internet and elsewhere.

To be accurate, maybe I should say that's what they think they want. Because most of what is available on the Internet is sufficiently different from what is found on other networks, such as FidoNet, UUCP, BITNET, CompuServe, or BBSes, these services are hard to understand without using them.

A look at file transfer capabilities helps illustrate this point. Many PC users have transferred files between a pair of machines, or used several hundred databases on a conferencing system. The existence of thousands of file repositories on computers spread around the world, accessible as if in the next room, can easily sound like an unusable fantasy. But it exists, mostly through FTP, the File Transfer Protocol.

RESOURCE SHARING ACROSS THE NET

File transfer is one type of resource sharing available across the Internet. Another is remote access to library catalogs and other specialized databases. Catalogs for the Library of Congress, the Bibliotheque Nationale, hundreds of university libraries, and others, are accessible through the Internet. The protocol most used for this is TELNET, which also permits someone with an ordinary login account on a remote system, across town or the world, to connect via the network and log in there.

More than five hundred databases on the Internet support keyword lookup. A popular protocol for this is WAIS, Wide Area Information Servers. Recognizing that working with various protocol interfaces can be difficult, and that users like menus, the Internet Gopher addresses both problems, providing a coherent front end to TELNET, FTP, and WAIS, among others, along with files and directories presented directly through Gopher as menus.

Another approach to a unified front end is WWW, World Wide Web. While Gopher is built around ASCII interfaces, WWW uses a bitmapped screen. Where Gopher provides whole files and directories by name, WWW uses hypertext to handle smaller pieces of information in addition to whole files and directories.

TYPE OF CONNECTION

An Internet user can access resources provided by others, and can also offer resources for others to use; this means that an Internet user can be a producer as well as a consumer of information.

The type of access to the Internet partly determines the user's ability to provide information. Many people will discover they already have access through their company's IP network. Some Internet connectivity providers sell individuals or organizations direct access, connecting a host or a LAN with IP to the rest of the Internet. This method offers the fullest range of capabilities, making all services available, all the time, and directly to the user's machine. In addition, the user can run servers that anyone else can access at any time.

Direct access is also the most expensive option. If the user does not already have a direct connection, or the user's organization wants a less expensive solution, dialup IP access is also an option. Many of the same connectivity providers offer it. The user is still able to use all of the Internet services directly, but it will now be more difficult to provide services, since the connection is intermittent, and the user's machine may not be accessible when a remote user wants it. More obviously, dialup links are usually slower than direct connections.

An even less expensive option is to connect through a login host. These are computers that provide accounts accessible by modem dialup. A user can use all Internet services (assuming the login host supports interfaces to them all), but the user is really working on the host computer, not theirs. Thus, to retrieve a file from a remote system, the user can use FTP to transfer it to the login host. But to get this file to their machine, the user must use Kermit, zmodem, or some other dialup modem file transfer protocol, at modem speeds.

Login hosts are the source of one of the most persistent false myths in the press

An **Internet** user can be a **producer** as well as a **consumer** of **information**.

Copyright © 1994 by MIDS. All rights reserved.

- - Since 1986

The Super Link

TSL is your shopping place to go: Walking distance from NCA, near Fry's

All Systems Are Burned-in and Tested for 48 Hours. One Year Parts & Labor Warranty on all Systems.

OPTI PENTIUM VESA SYSTEM

- * Opti Pentium board w/ 512k Cache
- * Intel Pentium 60MHz
- * Dual Fan Full Tower w/ 300W UL P.S
- * VLB IDE & FDD 2S/ P/ G
- * 340MB HDD
- * Teac 1.44MB FDD
- * Teac 1.2MB FDD
- * 4MB 70NS RAM
- * Diamond Viper VLB w/2MB RAM
- * Viewsonic 15" SVGA Monitor
- * Maxi 101 Keyboard

Pentium 60MHz

**** $2825****

MICRONICS 486 VLB SYSTEM

- * Micronics 486 VLB w/256K Cache
- * Intel 486 CPU
- * 4MB 70NS SIMM
- * VLB IDE Cont.
- * 2Serial/Parallel
- * Teac 1.44MB FDD
- * Teac 1.2MB FDD
- * 340MB HDD
- * Orchid 1280x1024 SVGA w/1MB
- * Mid Tower Case w/ 230W P.S
- * Maxi 101 Keyboard
- * 15" Multi Scan 1024x768 Monitor

486DX2-66	..$1799
486DX-50	..$1775
486DX-33	..$1615

JX-30 Model + $80

ACER VLB SYSTEM

- * Acer 486 VLB Board w/256K & Zif Socket
- * Intel CPU
- * 4MB 70NS SIMM
- * Genoa VLB SVGA / 1MB DRAM
- * Vision VLB IDE Cont. w/ 2S/P/G
- * Teac 1.2MB FDD
- * Teac 1.44MB FDD
- * Maxtor 245MB HDD
- * Mid Tower Case w/ 230w P.S
- * Maxi 101 Keyboard
- * 14" Non-interlaced SVGA Monitor

486DX2-66	.$1459
486DX-50	...$1455
486DX-33	...$1295

TSL BASIC SYSTEM

- * Mini Tower/ Desk Top Case /230W P.S
- * 1MB RAM
- * IDE 2F/2H Controller
- * 2 Serial/parallel/Game
- * Teac 1.44MB FDD
- * 101 Keyboard

486DX2-66 /128K	$685
486DX-50 /128K	$649
486DX-33 /128K	$499
386DX-40 /128k (486 Upgradable)	$285
386DX-40 Mhz	..$265

3 VESA Slots, ZIF Board; 72 Pin RAM Socket are available for your system.

Optional Items Are Available, Please Call

Orchid Double Speed CD-ROM W/ 16 bit interface & audio Card $199.99

MONITOR/ SIMM

Viewsonic:	
20"	.........$1615
17"	...........$ 940
15"	.........$425
6FS	........$ 475
5+	..........$ 425
6E	..........$272

Addonics SVGA Monitor Available

SIMM	
1x3 70NS	..............$38
4x3 70NS	.............$150
4x9 70NS	.............$165
1x36 70NS	...........$165
2x36 70NS	..........$315
4x36 70NS	..........$629

**** CD-Package Special ****
SONY Double Speed CD-ROM Drive.
w/ Opti Sound Card, 2 Speakers.
4 Dinosaurs & plus 3 more CD Titles
For only $299

SVGA CARD

VESA Local Bus:	
Diamond Viper 2MB	...........$365
Diamond Speed Star 1MB	...$109
Spider Black Widow	............$199
Spider VLB 1MB	.................$ 95
Orchid Celsius VLB 1MB/ 2MB	.................................$209/269
Orchid Fahrenheit 1280+	.....$145
Genoa VLB w/1MB	.............$99
ISA:	
Diamond Speed Star 1MB	.. $109
Orchid Fahrenheit 1MB V/A	$159
Paradise Clone w/ Win accel.	$69/82
Trident SVGA 1MB/512K	... $59/37

IDE CONTROLLER	
IDE 2F/2H	.......................$14
IDE 2F/2H/2S/P/G	..........$15
IDE 4F/2H/2S/P	...............$39
IDE HD/ FD Cont. /2 Hi Speed Serial / Parallel	..............Call

CONTROLLERS

* **SUPER IFSP2** 2HD/4FD/3S(16650)/2P/S	.$65
* **IDE 4A-2.88** 2HD/4FD Supt. 2.88FDD	...$45
* **IDE 8 - 2.88** 4HD/4FD Supt. 2.88 Coexist MFM, RLL, SCSI, ESDI	. ..$85
* **IDE8** 4HD/4FD Coexist MFM, ESDI RLL, SCSI	....$65
* **Fast Pig** 2H/4F/3S/P	...........$49
* VLB Adaptor	......................$22

VLB CONTROLLER	
2F/2H/2S/P/G	...............................$33
KW 2F/2H/2 Hi Speed S/P/G	......$69
KW 2F/2H/2 Hi Speed S/P/2.88	...$75
WS 2F/2H/2S/P/G	........................$ 38
WS 4F/2H/2S/P/G	........................$48
WS 4F/2H/ 2 Hi Speed S/P/ 2.88	..$65

DISK DRIVE/ MODEM

HARD DISK:	
540MB	............................$409
420MB	............................$309
340MB	............................$255
270/ 254MB	....................$219
130/ 200MB	....................$174/ 199
SCSI 345MB	....................$329
CD-ROM	
Toshiba 3401B	...............$339
Trantor SCSI Cont.	.........$45

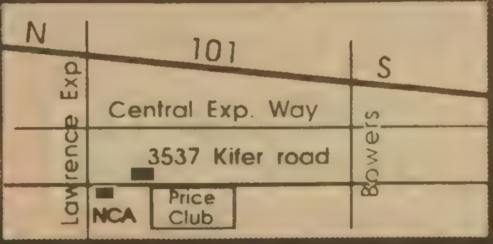
Brand Name Speakers. Low Price CD Title

FLOPPY DRIVE:	
Teac Combo 1.2 & 1.44	...$105
Teacc 2.88MB	.................$84
Toshiba 2.88MB	...............$58
Teac 1.44MB	....................$36
Teac 1.2MB	......................$45
MODEM	
Zoltrix 14400/14400	.........$125
2400/9600	.............$ 49
2400/9600 (Send only)	$27

Price subject to change without notice.
Freight and labor are not refundable including reject.

3537 Kifer Road.
Santa Clara, CA 95051
Tel: (408)-733-2558
Fax:(408)-733-3890

VISA MasterCard



The Most Powerful System In The Bay!

Easy Financing!
UP TO 3 YEARS!
No payment for 90 Days!

Pars Pentium Power Series™
P5-60/66MHz PCI/EISA

- •256K Cache (exp. to 512K)
- •4MB RAM (exp. upgradable to 128MB)
- •340MB Hard Drive (exp. to 2.2GB)
- • 1.44 & 1.2 Floppy Drives
- •IDE I/O 2FD/2HD/2S/1P/1G
- •SVGA 14" Monitor (upgradable to 37")
- •SVGA1280x1024 VLB Card
- •Fully Integrated Award Winning Office Integration Software
- •Server Case
- •101 Enhanced Keyboard
- •3 YEAR Parts & LIFETIME Labor Warranty Available
- •DOS, Windows, Windows NT, UNIX, Novel, OS/2, Next Step, 3COM, Oracle, Informix compatible!

$CALL

PC MAGAZINE EDITOR'S CHOICE

BUYERS ASSURANCE SEAL

Pars DX2 Power Series™
486-66MHz VESA LB
(upgradable to EISA/VESA LB)

- •256K Cache (exp. to 1MB)
- •4MB RAM (exp. upgradable to 128MB)
- •340MB Hard Drive (exp. to 2.2GB)
- • 1.44 & 1.2 Floppy Drives
- •IDE I/O 2FD/2HD/2S/1P/1G
- •SVGA 14" Monitor (upgradable to 37")
- •SVGA 1280x1024 VLB Card
- •Fully Integrated Award Winning Office Integration Software
- •Server Case
- •101 Enhanced Keyboard
- •3 YEAR Parts & LIFETIME Labor Warranty Available
- •DOS, Windows, Windows NT, UNIX, Novel, OS/2, Next Step, 3COM, Oracle, Informix compatible!

$1799

Made in U.S.A. MOTHERBOARD

Compare Performance
Intel vs. Intel/Pars Power Series™
Norton Utlites v.70 Speed Index

Intel/Pars Power Series 486DX2-66	158.5
Intel 486DX2-66	141.7

486-50MHz

- • AMI BIOS
- • 4MB RAM - 70ns
- • 1.2 MB Floppy
- • 1.44 MB Floppy
- • IDE/IO 2FD/2HD/2S/1P/1G
- • Fast 210 MB Western Digital HD
- • 101 Enhanced Keyboard
- • Mini-Tower Case
- • Super VGA Card 1MB Trident
- • Super VGA Monitor Full Screen
- • $880 Free PARS bundled Software
- • 3 YEAR Parts & Labor Warranty Available

Made in U.S.A. MOTHERBOARD

$999

486-66MHz

- • VESA Local Bus - 128K Cache
- • 4MB RAM - 70ns
- • 1.2 MB Floppy
- • 1.44 MB Floppy
- • IDE/IO 2FD/2HD/2S/1P/1G
- • Fast 340 MB Western Digital HD
- • 101 Enhanced Keyboard
- • Mid-Tower Case
- • Super VGA Card 1MB Trident
- • Super VGA Monitor .28 Full Screen
- • $880 Free PARS bundled Software
- • 3 YEAR Parts & Labor Warranty Available

Made in U.S.A. MOTHERBOARD

$1249

8MB RAM Add $160

For MultiMedia Systems with CD, Speakers, Titles & More Add $239

PANASONIC CD-ROM
W/Controller & Software
$149

SIMMS
1MB $39
4MB $159

Sound Card, Speakers, & Joystick w/Sound Blaster Chipset
$79

340MB Maxtor IDE Hard Drive
$244

AWARD WINNING MULTI MEDIA PACKAGES

DOUBLE SPEED MITSUMI CD ROM

- •[illegible]
- •[illegible]

$319

PC MAGAZINE EDITOR'S CHOICE

BUYERS ASSURANCE SEAL

NETWORK SERVICES

NOVELL
WINDOWS NT
LANTASTIC

- ☐ Fully trained Network CNE on Staff
- ☐ We specialize in Data Protection
- ☐ FREE 192 page Networking products catalog
- ☐ Voice Fax/Broadcast Servers.

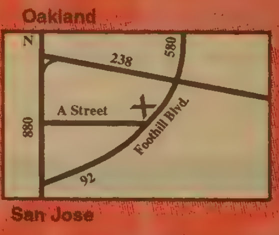
UNIX

- ☐ SUN
- ☐ SPARC
- ☐ SCO
- ☐ SOLARIS
- ☐ UNIX
- ☐ NEXTSTEP

PARS
INTERNATIONAL COMPUTER
Now in our 5th Year!

VISA MasterCard Financing Available

510/733-0103
FAX:510/733-0206
22441 Foothill Blvd. • Hayward, CA



DALLAS, TX
214-902-8386

MIAMI, FL
305-531-5878

ATLANTA, GA
404-391-0205

these days: that the Internet is a UNIX network, and that you must learn UNIX shell commands to use the Internet. Actually, the Internet's TCP/IP protocols are implemented on just about every computer software and hardware platform in the world. PCs and Macintoshes are found in hordes on the Internet. Free IP software is available for such machines, and using it with dialup IP access presents the Internet services through native interfaces on the user's machine. Mac users can point and click. MS-DOS users can use function keys. Users who want more sophisticated or more reliable IP software can buy it from companies like FTP Software for DOS or InterCon for Macintoshes.

MAIL DELIVERY SERVICES

Resource sharing isn't everything. Electronic mail is not only the service most new users ask for first; it is also the Internet service experienced users use the most. They use it to coordinate projects, discuss work, chat about food, romanticize, and philosophize. At Internet speeds, mail arrives in seconds, and conversations by mail are common.

Mail can also be addressed to a mailing list—sending it to a mail alias that software recognizes and forwards the message to all of the people on an established distribution list. Tens, hundreds, or even thousands of people can discuss anything this way; there are thousands of established lists. Lists are somewhat like newsletters, and somewhat like letters to the editor columns, but different; plus, each list tends to develop its own character.

Larger groups tend to form around USENET newsgroups. These are organized discussion topics where one copy of each message is kept per news server, rather than one copy in each individual's mailbox. This small difference permits great increases in efficiency, and therefore the ability to let larger numbers of people read and/or post to a single newsgroup. Of the more than five thousand major newsgroups, thirty-three of them have more than one hundred thousand readers each. More than four million people read news worldwide, both on the Internet and on other networks, such as UUCP, BITNET, and FidoNet.

Electronic mail is not only the **service** most new users ask for **first**; it is also the **Internet** service **experienced users** use the **most**.

H45 Technology

QUICKTAPE™ 250

Portable Parallel Port Tape Backup

- Easy to install: Just connect to printer port and plug in the power. No need to open your computer
- Easy to use: First backup in less than 5 minutes.
- Backup speeds up to 9MBytes/min.
- 250 MByte storage on a DC2120 tape cartridge.
- Share one unit with several computers, the only backup solution for laptops.
- Advanced backup software with data compression.
- Smaller, faster, quieter and more reliable than Trakker™
- 1-Year Warranty

SPECIAL
Introductory
Price
$279.00
QUICKTAPE

If you find a faster, smaller or less expensive parallel port tape backup, you can return Quicktape with no questions asked.

But we are sure you will not

To place an order call **H45** *Technology*

(415) 961-9114 or FAX (415) 964-2426

Dealer and distributors inquiries welcome

DISCOVER THE INTERNET

FOR ONLY

$17⁵⁰

A MONTH

Unlimited access with no hourly connect fees!

Why pay long distance phone charges?

CRL brings the Internet to you with a local call from any of the following areas:

•Alameda
•Atlanta, GA
•Anaheim
•Belmont
•Berkeley
•Boston, MA
•Campbell
•Corte Madera
•Crockett
•Emeryville
•Fairfax
•Hercules
•Ignacio
•Kentfield
•Los Altos
•Los Angeles
•Menlo Park
•Millbrae
•Mill Valley
•Mountain View
•New York, NY
•Novato
•Oakland
•Orinda
•Pacifica
•Palo Alto
•Petaluma
•Phoenix, AZ
•Pinole
•Redwood City
•Richmond
•Rohnert Park
•San Carlos
•San Francisco
•San Jose
•San Mateo
•San Rafael
•Santa Rosa
•Saratoga
•Sausalito
•Sebastopol
•Sonoma
•St. Louis, MO
•Sunnyvale
•Tiburon

CRL offers a full range of Internet services including: Telnet, FTP, E-Mail, Usenet News, Gopher, WAIS, IRC, MUDs, access to local CRL software archives, and 24 hour customer support. All dialups support SLIP/PPP, UUCP and Shell services at speeds up to 14400 baud. Contact CRL for your dialup or dedicated line service needs.

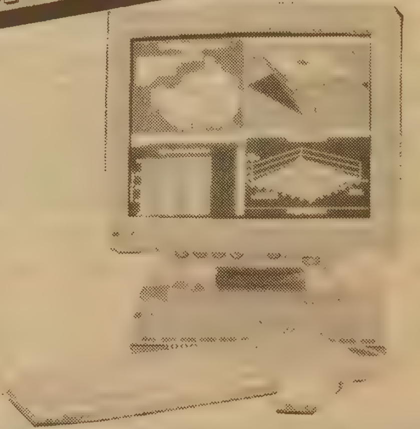
CRL

VOICE: 415-837-5300
FAX: 415-392-9000
E MAIL: support @ crl. com

SUNAR WORKSTATIONS

THE SPIRIT OF AMERICA, THE POWER OF THE BRAIN, AND THE QUALITY THAT CAPTURES THE WORLD!

NO RISK 100% WRITTEN GUARANTEED! TRUE CLONE! MADE IN THE USA!



- SUNAR 10 MODEL 30, 40, 41, 412, 512, 514
- SUNAR 2 MODEL 40, 50
- SUNAR SERVER 1000T*
- SUNAR MICRO 2*
- OPERATING SYSTEMS: SOLARIS 1.X, 2.X
- MODULES- ORIGINAL TI CPU's
- MONITORS- 15" to 21"
- GRAPHICS: GX, GX+, TURBO GX, TURBO GX+ (Single Slot)

* On Its Way

SUNAR CONTINUES TO OFFER THE IDEAL WORKSTATION PRODUCTS AT A REVOLUTIONARY PRICE!

NEW! SUNAR SYSTEMS SERVER 1000T & SUNAR MICRO 2

1-800-22-SUNAR
LOW LEASING RATES

SALES: SUNAR SYSTEMS, INC.
860 SAN ANTONIO RD.
PALO ALTO, CA 94303, USA
PHONE: (408) 982-0288
FAX: (408) 982-9369

E:MAIL: SALES @ SUNAR. COM
RESELLERS INQUIRIES, CORPORATE, GOV'T, & EDUCATIONAL PO'S WELCOME

VISIT US AT UNIFORUM SAN FRANCISCO MARCH 23-25 BOOTH #5310

MasterCard VISA

All Trademarks Registered by Respective Owners

authorized service center

DATA RECOVERY

Drives • Tapes • Optical Media

We offer service on multiple platforms - DOS, Novell, Macintosh, UNIX, XENIX, Banyan, OS/2, Sun, Bernoulli and More!

Our custom data recovery increases your chance for a successful recovery. Our specialized techniques include:

- Class 100 Clean Room
- Proprietary Software Tools
- Recovery of Hard Drives, Tapes and Optical Media
- Novell Netware Fixtures/Software Tools
- Data Protection Safeguards

GIGABYTES

TEL: (510) 440-8032 FAX: (510) 440-9099

WHAT IS IT ALL ABOUT?

New Internet users will like other services, such as IRC. But the main point of the Internet is not any specific service. The main point is not even the variety and sophistication of Internet services. It is what they can be used for: collaboration. While writing a paper or report, you can search assorted repositories across the world, often communicate directly with the people who provide them, retrieve background material, locate potential coauthors, pass drafts including text and graphics back and forth, and even publish the final copy, if you wish. And you can do this at a speed limited mostly only by the people involved. You don't have to order a document and wait a day for it to arrive by overnight courier, and you don't have to pay the courier. If you do your own research, you may find your job finished in a day or even hours.

It's true that many pieces of information are not yet available over the Internet, and many people you want to reach do not yet have access. But the Internet can often help you find them faster.

As of October 1993 there were about fifteen million people on the Internet, and the number has been doubling annually for the past five years. If the current growth rate continues, there will be thirty million Internet users by October 1994; roughly equal to the population of Canada. Users range from ranchers in Montana to students at every major university in North America, Europe, and the Far East, to capitalists in Moscow; from the president of the US to troops and aid agencies in Somalia; from Melbourne to Cape Town to Buenos Aires. Currently the Internet reaches fifty-nine countries.

Looked at as a nation itself, this network offers many things—a marketplace, a workplace, a source of entertainment. That's the Internet. ■

John S. Quarterman is editor of Matrix News, *a monthly newsletter about contextual issues crossing network, geographic, and political boundaries, and is secretary of Matrix Information and Directory Services, Inc., of Austin. Quarterman is senior technical partner of Texas Internet Consulting (TIC), which consults in networks and open systems, with particular emphasis on TCP/IP networks, UNIX systems, and standards.*

He is the author of The Matrix: Computer Networks and Conferencing Systems Worldwide, *Digital Press, 1990, and coauthor of* The Design and Implementation of the 4.3BSD UNIX Operating System, *1989;* UNIX, POSIX, and Open Systems: The Open Standards Puzzle, *1993;* Practical Internetworking With TCP/IP and UNIX; *and* The Internet Connection: System Connectivity and Configuration, *1993, Addison-Wesley.*

He can be reached at: MIDS, 1106 Clayton Lane, Suite 500W, Austin, TX 78723. Email: mids@tic.com

PC MAGAZINE

"HiQ P66 Pentium Station Marks itself as a price/performance leader, offering a Top-notch Windows performance."

"HiQ P66 turned in two record scores, its processor score took first place. its graphics Winmark and Winstone scores were the best to date."

PC Magazine Jan 25, 1994

Pentium PCs

The Fastest Ever

Price 4318

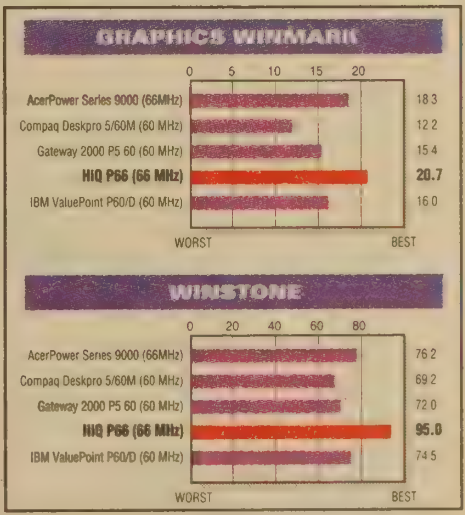
FREE Financing! for 90 Days!* 100% Financing Available-LOW Monthly Payments! 30 Day "No Questions Asked" Money-Back Guarantee

- ▲ FREE Lifetime Technical Support
- ▲ One Year Parts & 2 Years Labor Warranty
- ▲ Customized Configurations & Leasing
- ▲ Corporate & Government P.O.s Welcome!

* With Credit Approval

HiQ P66 Pentium Station

- ▲ Intel Pentium 66MHz Processor
- ▲ 16MB RAM Expandable to 128MB On-board
- ▲ 512K SRAM Cache
- ▲ 1.2MB and 1.44MB TEAC Floppy Drives
- ▲ 540MB IDE Hard Drive
- ▲ Promise 4030VL Vesa LB IDE Controller w/8MB Cache
- ▲ AT I/O Card (2 Serial, 1 Parallel & 1 Game)
- ▲ Diamond Viper VESA LB SVGA Card w/2MB RAM
- ▲ 15" ADI 4G SVGA Color Monitor 1280 x 1024, 0.28dp
- ▲ 101 Enhanced Keyboard
- ▲ Full Tower Case with 250W Power Supply
- ▲ Hi-Res Mouse with Windows 3.1 and DOS 6.2 w/manuals



GRAPHICS WINMARK

WINSTONE

HIQ
HIQUALITY SYSTEMS, INC.

Since 1987, HiQ has set the standard for sales and service in the personal computer market place. With offices from California to Boston, HiQ has the experience and knowledge to help you achieve your personal and business computing goals. There are many companies that will sell you a computer, but only one that will back you up with technical support, quality equipment and good old-fashioned service. If you're looking for a computer or an entire Local Area Network, HiQ wants to help you make the job easy.

Call HiQ today!

1-800 827-5836

Store Hours
Monday - Friday: 9am to 6pm
Saturday: 11am to 4pm

HiQ PCI P60 Pentium Station

MICRONICS

- ▲ Intel Pentium 60MHz Processor
- ▲ Micronics PCI Motherboard
- ▲ 16MB RAM Expandable to 128MB On-board
- ▲ 256K SRAM Cache
- ▲ 1.2MB TEAC Floppy Drive
- ▲ 1.44MB TEAC Floppy Drive
- ▲ 540 IDE Hard Drive
- ▲ Integrated PCI Local Bus IDE Controller
- ▲ AT I/O Card (2 Serial, 1 Parallel & 1 Game)
- ▲ PCI Local Bus SVGA Card w/2MB RAM
- ▲ 15" ADI 4G SVGA Color Monitor 1280 x 1024, 0.28dp
- ▲ 101 Enhanced Keyboard
- ▲ Full Tower Case with 250W Power Supply
- ▲ Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals

ADI Monitor
2 Year Warranty

Price
3859

HiQ 4DX2-66 EISA VLB

MICRONICS

- ▲ Intel 4DX2-66MHz Processor
- ▲ Micronics EISA VESA LB Motherboard
- ▲ Intel P24T Support (ZIF Socket)
- ▲ 256K On-board Secondary Cache
- ▲ 1.2MB & 1.44MB TEAC Floppy Drive
- ▲ 8MB RAM Expandable to 64MB
- ▲ 250MB IDE Hard Drive
- ▲ VESA VLB IDE Controller w 2S/1P Ports
- ▲ Fahrenheit VESA Local Bus 32-Bit
- ▲ SVGA Card 1280 w/1MB RAM
- ▲ 15" ADI 4G SVGA Color Monitor 1280 x 1024, 0.28dp Color Monitor
- ▲ Mitsumi 101 Keyboard
- ▲ Full Tower Case with 250W Power Supply
- ▲ Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals

Price
2559

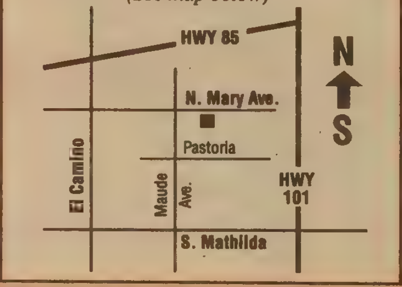
HiQ Power 433VLB and Super Power 4DX2-66VLB

MICRONICS

- ▲ Intel 486DX-33/486DX2-66MHz Processor
- ▲ Micronics VESA LB Motherboard
- ▲ 4MB RAM (70ns) expandable to 64MB
- ▲ 256K SRAM Cache, 2-VESA LB, Six 16-Bit Slots
- ▲ 1.2MB & 1.44MB TEAC Floppy Drive
- ▲ 250MB IDE HDD, 13ms
- ▲ Integrated 32-Bit LB IDE Controller w 2Serial, 1 Parallel Ports
- ▲ Fahrenheit VESA Local Bus SVGA Card, 1MB RAM
- ▲ 14" SVGA Color Monitor, Non-Interlaced, 1024 x 768, 0.28dp
- ▲ 101 Enhanced Keyboard
- ▲ Mid Tower Case with 230W Power Supply (Full Tower Upgrade-add $30)
- ▲ Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals

Price
1599/1799

Stop by our convenient Sunnyvale Store
(See map below)



Call HiQ today!

1-800 827-5836

Northern California Locations:

South Bay
740 N. Mary Avenue, Sunnyvale, CA 94806
(408) 245-5836, Fax: (408) 245-3108

Marin County
2048 Fourth St., San Rafael, CA 94806
(415) 459-1893, Fax: (415) 459-7428

Sacramento
1967 Zinfandel Dr., Rancho Cordova, CA
(916) 635-7842, Fax: (916) 635-3692

HiQ P60 Pentium Station

- Intel Pentium 60MHz Processor
- 8MB RAM Expandable to 128MB On-board
- 256K SRAM Cache Pentium Cache
- 16KB Internal Pentium Cache
- 1.2MB and 1.44MB TEAC Floppy Drive
- 540MB IDE Hard Drive
- VESA Local Bus IDE Controller w/2 Serial and 1 Parallel Ports
- Diamond Viper VESA LB 32-Bit SVGA Card w/2MB RAM
- 15" ADI 4G SVGA 1280 x 1024 0.28dp Color Monitor
- 101 Enhanced Keyboard
- Full Tower case with 250W Power Supply
- Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals

Only **$3299**

HiQ PCI 4DX2-66

- Intel 486DX2-66MHz Processor
- 8MB RAM Expandable to 128MB On-board
- 256K SRAM Cache Pentium Cache
- 1.2MB and 1.44MB TEAC Floppy Drive
- 340MB SCSI HDD
- PCI Local Bus SCSI Controller
- AT I/O Card w/2 Serial and 1 Parallel Ports
- PCI Local Bus SVGA Card w/1MB RAM
- 15" ADI 4G SVGA Monitor, Non-Interlaced, 1280 x 1024, 0.28dp
- 101 Enhanced Keyboard
- Mid Tower case with 230W Power Supply
- Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals

Only **$2395**

HiQ Ultimate 433VLB and 4DX2-66VLB

- Vesa Local Bus
- Intel 486DX-33/486DX2-66MHz Processor
- 4MB RAM(70ns) Expandable to 32MB
- 128K SRAM Cache
- 1.2MB and 1.44MB TEAC Floppy Drive
- 250MB IDE HDD
- Vesa Local Bus 32 Bit IDE Controller 2H/2F w/2 Serial, 1 Parallel and 1 Game Ports
- Vesa Local Bus SVGA Card w/1MB RAM
- 14" SVGA Color Monitor, 1024 x 768, 0.28dp
- 101 Enhanced Keyboard
- AT Desktop Case with 220W Power Supply

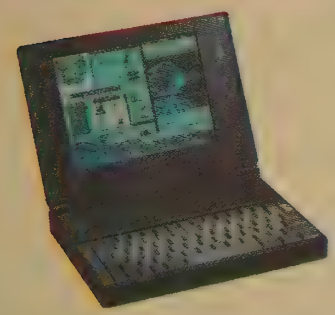
Only **$1299/1499**

HiQ's Great Value Systems

- 4MB RAM
- 64K SRAM Cache
- 1.2MB & 1.44MB Floppy Disk Drives
- 170MB IDE Hard Disk Drive, 18ms access
- IDE Controller 2 HDDs/2 FDDs with 2 Serial, 1 Parallel and 1 Game Ports
- Trident OEM SVGA Card with 1MB RAM
- 14" SVGA Color Monitor 1024 x 768, 0.39 dot pitch
- 101 Enhanced Keyboard
- Mini Tower Case w/220W PS

HiQ 486DLC-40MHz System...Only $958
HiQ 486DX-33MHz System.....Only $1148
HiQ 486DX-40MHz System.....Only $1138
HiQ 486SLC2-66MHz System Only $1098

Twinhead New Slimnote Series



Twinhead

486DX Active Color Matrix Slimnote

- Intel SL Enhanced Processor
- 4MB Ram Expandable to 20MB On-board
- 1.44MB Floppy Drive
- 9.4 Active Color Matrix 256 Color, w/512K Ram
- 200MB IDE Hard Drive (340MB Available)
- 84 Key Keyboard
- **PCMCIA Type II Slot**
- Built in Trackball
- Power Management (0 Volt Suspend)
- NIMH Battery Pack & AC Adapter
- MS DOS 6.2/MS Windows 3.1
- Weight: 6.25 Lbs w/Battery
- Dimensions: 8.5" x 11" x 1.8"

Twinhead 486DX-33Mhz $3599
Twinhead 486DX2-66Mhz $4059

Twinhead

486DX Dual Scan Color Slimnote

- Intel SL Enhanced Processor
- 4MB Ram Expandable to 20MB On-board
- 1.44MB Floppy Drive
- 9.4 Active Dual Scan DSTN Color Display 256 Color, w/512K Ram
- 130MB IDE Hard Drive (340MB Available)
- 84 Key Keyboard
- **PCMCIA Type II Slot**
- Built in Trackball
- Power Management (0 Volt Suspend)
- NIMH Battery Pack & AC Adapter
- MS DOS 6.2/MS Windows 3.1
- Weight: 6.25 Lbs w/Battery
- Dimensions: 8.5" x 11" x 1.8"

Twinhead 486DX-33Mhz $2699

Twinhead

486DX VGA/Mono Slimnote

- Intel SL Enhanced Processor
- 4MB Ram Expandable to 20MB On-board
- 1.44MB Floppy Drive
- 10" VGA/Mono Display, 64 Shades
- 120MB IDE Hard Drive (340MB Available)
- 84 Key Keyboard
- **PCMCIA Type II Slot**
- Built in Trackball
- Power Management (0 Volt Suspend)
- NIMH Battery Pack & AC Adapter
- MS DOS 6.2/MS Windows 3.1
- Weight: 5.8 Lbs w/Battery
- Dimensions: 8.5" x 11" x 1.6"

Twinhead 486DX-33Mhz $1949

Twinhead

486 VGA/Mono Subnote

- 4MB Ram Expandable to 8MB On-board
- External 1.44MB Floppy Drive
- 8" Side Lit VGA Display, 64 Shades
- 85MB IDE Hard Drive
- 79 Key Keyboard
- **PCMCIA Type II Slot**
- Built in Trackball
- Power Management (0 Volt Suspend)
- NIMH Battery Pack & AC Adapter
- MS DOS 6.2/MS Windows 3.1
- Weight: 4.0 Lbs w/Battery
- Dimensions: 7.1" x 10" x 1.6"

Twinhead 486SLC-33Mhz $1499

TEL: (408) 245-5836 Fax: (408) 245-3108
740 North Mary Avenue, Sunnyvale, CA 94086

Ordering Information: Shipping and handling additional. Corporations rated 32A or better and Government accounts are accepted on a 30 net basis. C.O.D. orders over $500 add $10.00 special handling charges. Fill returns must have prior authorizations from our Customer Service Department (408) 245-5836. Fill returns must be in original packaging and include all warranty cards and manuals. Incomplete product returns, unauthorized returns and refuse shipments are subject to a 20% re-stocking charge. Fill prices and specifications are subject to change without notice. All trademarks belong to their respective companies. Not responsible for typographical errors.

HIQ

MULTIMEDIA

FREE $100

Gift certificate for our CD Titles with purchase of one of these two CD Systems!

FAMILY ENTERTAINMENT

Please drop by our showroom to experience the latest in sight and sound!

Gift Certificate

$100.00

Valid only with Purchase of one of the CD Systems on this page from HiQ Computers.

Ordering Information: Shipping and handling additional. Corporations rated 32A or better and Government accounts are accepted on a 30 net basis. C.O.D. orders over $500 add $10.00 special handling charges. Fill returns must have prior authorizations from our Customer Service Department (408) 245-5836. Fill returns must be in original packaging and include all warranty cards and manuals. Incomplete product returns, unauthorized returns and refuse shipments are subject to a 20% re-stocking charge. Fill prices and specifications are subject to change without notice. All trademarks belong to their respective companies. Not responsible for typographical errors.

HiQ Multimedia Family System

MONTHLY SPECIAL

- ▲ Intel 486SX-33MHz Processor
- ▲ 128K SRAM Cache
- ▲ 4MB RAM (70ns)
- ▲ 1.2MB and 1.44MB Teac FDDs
- ▲ 170MB IDE Hard Drive
- ▲ VESA LB IDE Controller 2F/2H & 2S/1P/1G Ports
- ▲ Trident VESA LB SVGA Card w/1MB RAM
- ▲ 14" SVGA 1024x768 .28dp Color Monitor
- ▲ 101 Enhanced Keyboard
- ▲ Mini Tower Case w/220W P/S
- ▲ MS DOS 6.2 w/Manuals
- ▲ Hi-Res Mouse and WIN 3.1 w/Manuals
- ▲ Sony CDU-33A CD-ROM Double Speed (PC Magazine Editor's Choice Feb 22, 1994)
- ▲ Media Magic's Stereo 16 Bit Sound Card
- ▲ Amplified Stereo Speakers
- ▲ **Software CD Titles Included:**
  Comptons Multimedia Encyclopedia
  King's Quest VI/Battle Chess
  Dinosaurs The Multimedia CD
  Interactive Storytime Vol 1

Plus a $100.00 Gift Certificate for any of our CD Titles.

★ ***Monthly Special....***

for this system only!

Only **$1599**

Stop By and pick one up NOW!

HiQ Multimedia MultiMAGIC© System

- ▲ Intel 486DX-33MHz Processor VLB
- ▲ 256K SRAM Cache
- ▲ 4MB RAM (70ns) Exp. to 32MB
- ▲ 1.2MB and 1.44MB TEAC FDDs
  250 IDE Hard Drive, 13ms
- ▲ VESA Local Bus IDE Controller 2/H/2F, 2S/1P/1 Game Port
- ▲ Fahrenheit VESA LB 32-Bit SVGA card, 1280, 1MB RAM
- ▲ 14" SVGA 1024 x 768, 0.28dp, Non-Interlaced Color Monitor
- ▲ 101 Enhanced Keyboard
- ▲ AT Case with 230W Power Supply
- ▲ Hi-Res Mouse with Windows 3.1 and DOS 6.2 with manuals
- ★ Toshiba 3401B Int. CD-ROM (Fastest CD-ROM)
- ▲ Media Vision Pro AudoSpectrum 16-Bit w/SCSI port
- ▲ Amplified Stereo Speakers

Software CD Titles Include:

Compton's Multimedia Encyclopedia
San Diego Zoo presents "The Animals"
Where in the World is Carmen San Diego-Deluxe
MicroSoft Bookshelf

Plus a $100.00 Gift Certificate for any of our CD Titles.

Only **$2259**

FREE Installation on Every MultiMedia Package!

HiQ New Generation Kit

- ▲ NEC 3XI Triple Speed SCSI CDROM
- ▲ Creative Labs SB 16 ASP SCSI II
- ▲ Amplified Speakers

CD Software Titles Include:

- ▲ Grolier Multimedia Encyclopedia
- ▲ Mayo Clinic Family Health
- ▲ Carmen San Diego
- ▲ Arthur's Teacher Trouble
- ▲ MS Bookshelf 93

Price
$799

HiQ Family Plus Entertainment Kit

Panasonic CR-562B CD-ROM

- ▲ Sound Blaster 16-Bit Stereo Version
- ▲ Amplified Stereo Speakers

CD Software Titles Include:

- ▲ Encyclopedia by Software Toolworks
- ▲ Where in the World is Carmen San Diego-Deluxe
- ▲ San Diego Zoo Presents "The Animals"
- ▲ Mayo Family Health Clinic
- ▲ MicroSoft Bookshelf 93

Price
$429

HiQ Performance Entertainment Kit

Toshiba XM-3401B CD-ROM

- ▲ Media Vision Pro AudioSpectrum w/SCSI Port
- ▲ Amplified Stereo Speakers

CD Software Titles Include:

- ▲ Where in the World is Carmen San Diego
- ▲ San Diego Zoo Presents "The Animals"
- ▲ Compton's Encyclopedia Software
- ▲ MS Bookshelf 93

Price
$599

HiQ Family Entertainment Kit

Sony CDU-33A CD-ROM

- ▲ Media Magic Stereo 16 Bit Sound Card
- ▲ Amplified Stereo Speakers

CD Software Titles Include:

- ▲ Compton's Multimedia Encyclopedia
- ▲ King's Quest VI
- ▲ Dinosaur's: The Multimedia Encyclopedia
- ▲ Battle Chess Enhanced CD-ROM
- ▲ Interactive Storytime Vol. 1

Price
$359

SOUND CARD

Creative Labs SB 16-Basic	16-Bit Stereo, Voice Switch	**$129**
Creative Labs SB 16-MCD	16-Bit Stereo, Voice Switch	**$169**
Creative Labs SB 16-ASP MCD	16-Bit Stereo, Voice Switch	**$199**
Creative Labs SB 16-SCSI	16-Bit Stereo, SCSI CD Interface	**$189**
Creative Labs SB 16-ASP SCSI II	16-Bit Stereo, SCSI CD Interface	**$219**
MediaVision ProAudio Spectrum	16-Bit Stereo, SCSI CD Interface	**$139**
MediaVision ProAudio Studio	16-Bit Stereo, SCSI CD Interface	**$169**
Orchid Sound Wave 32	16-Bit Sound Card	**$199**
Orchid Game Wave 32	16-Bit Sound Card	**$139**

SCSI/AT Bus CD-ROM DRIVE

CD-ROM Drive only, require SCSI Interface & drivers, for IBM & MAC

NEC 3XI Triple Speed	450KB/Sec, 190ms, internal	**$499**	External $629
Toshiba XM-3401B	200ms avg. access, 330KB/sec trf 256KB buffer, Photo CD multisession, XA, SCSI-2, internal	**$359**	External 3401E $499
Teac CD-50 CD-ROM	265ms avg. access, 350KB/sec. trf 256KB buffer, Photo CD multisession, XA, SCSI-2, internal	**$299**	External OEM $409
Orchid CDS-3110	350ms avg. access, 300KB/sec Double Speed, Photo CD Compatible	**$229**	
Panasonic CR-562	320ms avg. access, 300KB/sec trf 64KB buffer, Photo CD multisession, XA, internal	**$199**	External OEM $299
Panasonic CR-523	390ms avg. access, 150KB/sec trf 64KB buffer, Photo CD multisession, XA, internal	**$159**	External OEM $259

AT-Bus, 8-Bit Card, drivers for Panasonic 522/562...... **$20**

Driver/Audio/Cable
Kit from 522/562 to SBPro/16 .... **$20**

All Card & Kits come complete w/Cables & Drivers

HOT NEW CD TITLES

20th Century Almanac	$22
20th Century Video-People MPC	$22
20th Century Video-Sports MPC	$22
A Christmas Carol.	$22
Adventure MPC.	$19
Adventure of Willy Beamish	$19
American Business Phone Book	$22
Animals V1.0 MPC	$19
Arthur;s Teacher Trouble	$24
Aris Jets & Props 2DSK	$22
Audubon Birds	$19
Audubon Mammals	$19
Barron's College Guide	$22
Battle Chess	$22
Beauty & Beast	$19
Beyond the Wall of Stars	$22
Bibles and Religion	$19
Bring the World to your Senses	$19
Business Background	$19
Carmen San Diego-Deluxe	$24
CD Fun House DOS	$22
CD Game Pack II DOS	$22
Chess Master 3000 MPC	$19
CIA World Fact Book DOS	$22
Clippart Goliath	$19
Colossal Cookbook	$19
Complete Bookshop	$19
Complete House MPC	$19
Composer Quest	$22
Compton's Interactive Encyclopedia	$89
Compton's Multimedia Encyclopedia	$49
Compton's Family Encyclopedia	$29
Comsumer Information	$35
Crossword Cracker	$29
Deathstar Battles	$19
Desert Storm	$22
Dictionaries and Language	$19
Dictionary/Living World	$29
Dinosaur Adventure	$22
Dinosaur and Space Adventure	$29
Dinosaur Encyclopedia	$19
Dr's Book of Home Remedies MPC	$22
Dr. Fun Pak	$16
Dr. Games Vol.1	$16
Dr. Music Vol.1	$16
Dr. Shareware Vol.1	$16
Dr. Windows Win	$16
Education Master	$25
Electronic Home Library	$25
Electronic Lib of Art VI	$29
Encyclopedia of Sound	$19
Family Choice	$19
Family Doctor-MPC	$22
Family Education Collection	$22
Font Master I	$22
Font Master II	$25
Futura Games	$25
Games Expert Vol. MPC	$16
Gardening	$19
GIFs Galore	$22
Goldilocks & The 3 Bears Eng	$19
Great Cities-Vol.1	$19
Great Cities-Vol.2	$19
Grolies's Ency MPC	$45
Guinness Disk of Rec. 1993 MPC	$22
Hacker Chronicles	$29
Ham Radio ORZ!	$19
Halo Desktop Imager MPC	$19
Harry Story Disc & Coloring Book	$19
Indiana Jones Fate Atlant	$55
Int'l Bus & Econ Atlas DOS	$19
Interactive Storytime Vol.1	$22
Interactive Storytime Vol.2	$22
Interactive Storytime Vol.3	$22
Island Design 2CD	$19
Jones in the Fast Lane	$19
KGB World Fact Book	$35
Killer Track CD-Music Lib	$19
King Quest V	$19
Kodak Photo Access	$19
Language of the World MPC	$19
Library of the Future 1st	$39
Learning Fly Fishing MPC	$22
Learning Heaven	$25
Let's Play	$22
Loom	$22
Lotus 123 V3.1 MPC	$59
Macmillan Dictionary	$22
Macromedia Action MPC	$29
Magazine Rack	$35
Manhole	$25
Maniac Mansion	$49
Mantis Experimental Fighter	$19
Mario is Missing Deluxe MPC	$19
Mario's Missing/World Atlas	$22
Marketing Master 1992 DOS	$22
Mavis Beacon Typing 2.o MPC	$19
Media Clips-4Pak	$35
Microprose Coll. DOS/MAC	$22
MIDI Music Shop MPC	$22
Mirror Mirror	$22
Mixedup Mother Goose	$19
MM Power Talk MPC	$22
Money Money Money	$19
Monkey Island-English	$19
Mozart, Music MPC	$19
Musical Instruments	$69
National Geographic Mammals	$24
National Parks	$22
Newsweek Interactive	$29
Niteowl 9 Shareware	$35
Oceans Below MPC	$22
Ocean Digital Imagery Vol.1	$22
Oldies But Goodies	$22
OS/2 Archives	$22
Our Solar System	$39
PC Medic	$25
PC Sig 12 Shareware	$25
Peter and The Wolf	$19
Phoenix 3.0 shareware	$19
Pinacotheca PC Multimedia MPC	$19
Playing w/Languages-English	$22
Playing w/Languages-French	$22
Playing w/Languages-German	$22
Playing w/Languages-Japanes	$22
Playing w/Languages-Spanish	$22
Power Pak Gold	$25
Presidents DOS	$75
Pro Phone 1993	$119
Programmer's ROM	$35
Publish It! 2.0	$22
Q&A Symantec DOS 4.0	$29
Quicktoons DOS	$22
Reference Library MPC	$22
Renaissance Masters I MPC	$25
Renaissance Masters II MPC	$25
Return to the Moon	$19
Return to Zork	$22
Right College DOS	$22
Roger Ebert's Movie Companion	$35
San Diego Zoo/Animals	$25
Secret Weapon of Luftwaffe	$19
Seventh Guest-Retail	$55
Seventh Guest-OEM	$45
SFX-300 Sound Effects	$19
Shakespeare	$19
Shareware Heaven	$25
Shareware Overload	$19
Sherlock/Consult Det	$19
Simtel MS DOS Shareware	$22
So Much Shareware II	$19
So Much Shareware III	$19
Sound Library	$19
Sound Sensations	$19
Space Adventure	$22
Space Quest IV	$19
Space Shuttle MPC	$22
Speedway	$69
Sport's Best (3 in 1) DOS	$22
Sport Illustrated	$19
Star Wars Chess MPC	$22
Stellar Seven	$22
Storis of Murder MPC	$22
Storytime	$19
Straight from Heaven	$25
STW 4 Title Pack	$39
Supertoons DOS	$22
Survey of Western Art MPC	$25
Swimwear 1993	$29
Techno Tools	$19
Tempra Kodak Access S/w	$22
Terrorist Group Profiles	$35
The Shareware Concept	$19
Time Almanac 1992 DOS	$19
Time Table of History (BUS/P)L)	$19
Time Table of History (SCI/INN)	$19
Time Table of History Science	$22
Too Many Typefonts	$19
Total Baseball	$22
Travel Companion-Toolworks	$19
U.S. Atlas	$19
U.S. History	$22
US/World Atlas Pack	$25
USA Fact Book	$35
USA State Fact Book	$35
USA Wars: Civil War DOS/MAC	$29
USA Wars: Korea DOS/MAC	$29
USA Wars: WW II DOS/MAC	$29
USA Wars: Vietnam DOS/MAC	$29
Variety Store	$22
VGA Spectrum	$19
Whale of Table MPC	$69
Who Killed Sam Rupert	$22
Wild Places	$19
Vital Signs MPC/MAC	$69
Winware Vol.3	$22
Windoware	$19
Windows Expert Vol.1	$16
Windows Master	$25
Windows Platium	$29
Wind Commander V6	$19
Wiz-Pak Shareware	$19
Wizard MPC	$19
Wizard Test and Tune Up	$22
Women of Venus	$29
World Atlas MPC	$19
World of Flight	$35
World of Trains	$35
World Traveler Vol.1	$19
World View	$19

HiQ

Call HiQ today!

1-800 827-5036

OS/2 Another START

Or, How To Avoid Superfluous Icons

BY FABIAN PASCAL

As developers compete fiercely to win first place in the "application with most flashy icons" contest, screens increasingly look like the walls of ancient Egyptian tombs. Figures 1A and 1B are screens from two OS/2 applications—rather conservative in their use of icons compared to some of the products out there. We know that the suitability of different types of languages varies by task, individual, and context. Thus, commands, which can be cryptic, are not the best for novices—menu or point-and-click interfaces are better for that—but they can be convenient shortcuts for advanced users, and while natural language may suit narrow information domains (e.g. specialized expert systems), it is problematic (and is hardly convenient) for generalized purposes, relative to menus or visual interfaces. Nevertheless, the industry, driven by fads, is pushing icons everywhere.

This, of course, is not peculiar to OS/2. In fact, mindless icon proliferation started with Windows, where the most egregious examples are found. In OS/2, however, there is a way to avoid iconic interaction when it's not convenient.

OVERCLICKED

Like many—if not most—PC users, I have worked under DOS for many years and, whether I liked it or not, I had to learn its commands, as well as many command-driven utilities. After a while they became second nature.

Under OS/2, therefore, I always have a DOS command prompt window open on the desktop for my routine tasks, DOS commands, and utilities, e.g. DEL, LIST, or DR, MacMail to check my mail on MCI Mail, and PC-Write for word processing (including writing MCI messages). For the specialized DOS applications I don't use

Copyright © 1994 by Fabian Pascal. All rights reserved. Fabian Pascal is a San Francisco independent consultant, teacher, and writer specializing in relational database management. An industry analyst, he teaches seminars, consults, and has published extensively. He is author of SQL And Relational Basics *(M&T Books, 1990) and* Understanding Relational Databases *(John Wiley, 1993). He can be reached on MCI Mail (FPascal), CompuServe (73677,3306), or at (415)776-5184.*

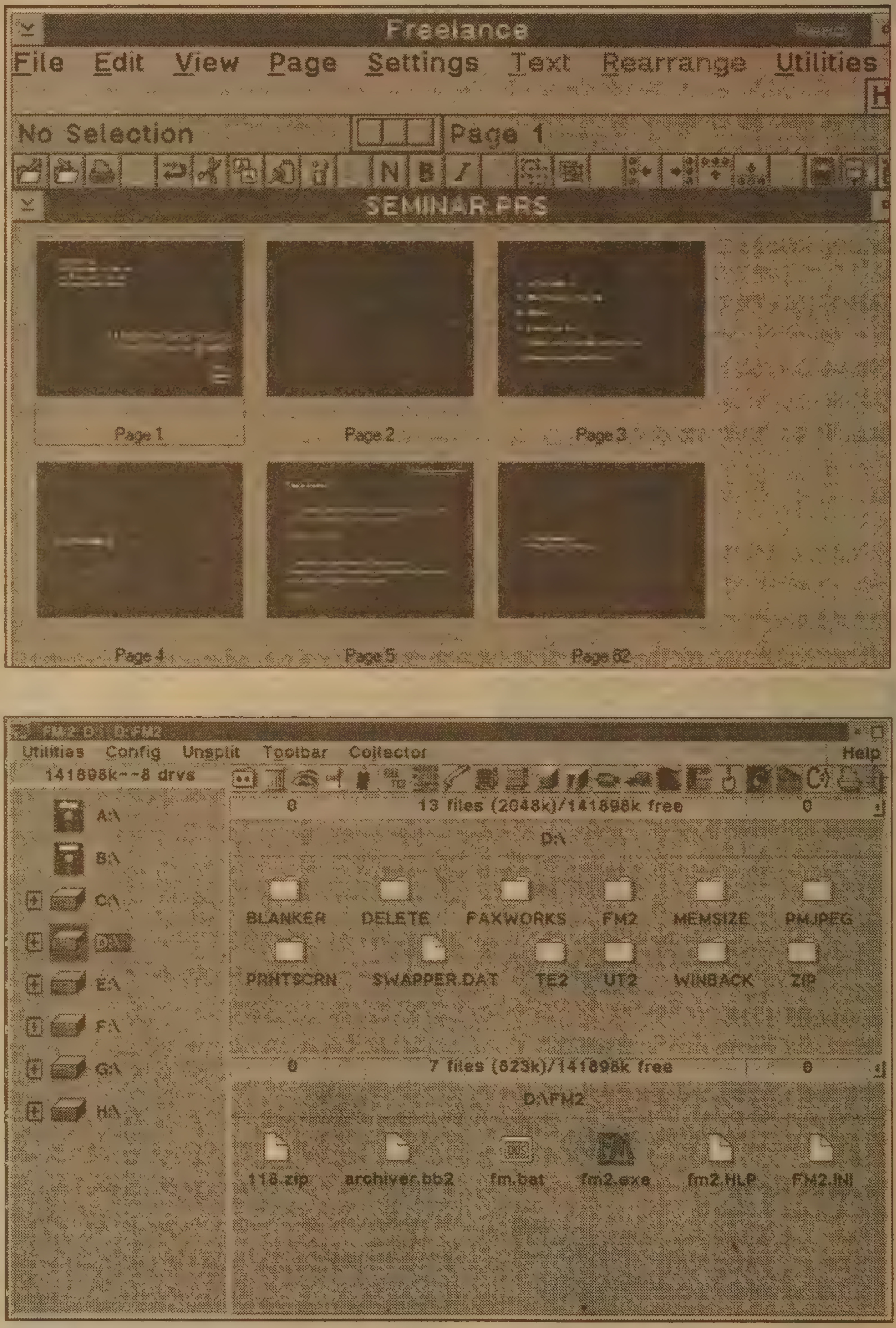

Freelance
File
Edit
View
Page
Settings
Text
Rearrange
Utilities
No Selection
Page 1
SEMINAR.PRS
Page 1
Page 2
Page 3
Page 4
Page 5
Page 62
FM/2 D:\ D:\FM2
Utilities
Config
Unsplit
Toolbar
Collector
Help
141898k--8 drvs
A:\
B:\
C:\
D:\
E:\
F:\
G:\
H:\
13 files (2648k)/141898k free
D:\
BLANKER
DELETE
FAXWORKS
FM2
MEMSIZE
PMJPEG
PRNTSCRN
SWAPPER.DAT
TE2
UT2
WINBACK
ZIP
7 files (623k)/141898k free
D:\FM2
118.zip
archiver.bb2
fm.bat
fm2.exe
fm2.HLP
FM2.INI

Figure 1: Iconomania

Shopping for a computer dealer that won't give you the runaround ?

With our 8 years experience, we know how to offer solutions at a price you can afford!

PENTIUM PCI LOCAL BUS SYSTEM

INTEL PENTIUM 60MHz PROCESSOR
PCI BUS AND 4 ISA BUS SLOTS
16MB UP TO 128MB RAM (72-BIN)
520MB SCSI II QUANTUM HARD DRIVE
PCI SCSI II CONTROLLER
(DRIVERS FOR OS/2 WINDOWS NT UNIX)
DIAMOND VIPER PCI VIDEO W/2MB VRAM
ADI 4G 15" SVGA MONITOR
1.2MB AND 1.44MB FLOPPY
101 KEYBOARD
LOGITECH SERIAL MOUSE
14,400B FAX MODEM

$3380.00

PCI 486DX LOCAL BUS

256K CACHE WRITE BACK
3 PCI BUS AND 4 ISA BUS SLOT
8MB UP TO 128MB RAM
SCSI AND IDE CONTROLLER ON BOARD
340MB SCSI HARD DRIVE
DIAMOND VIPER PCI VIDEO W/2MB VRAM
ADI 4G 15" SVGA MONITOR
1.2MB AND 1.44MB FLOPPY
101 KEYBOARD
LOGITECH SERIAL MOUSE
14,400 FAX MODEM

$2295.00

MULTIMEDIA VESA VLB SYSTEM

486DX2-66/50/33 MHz
486VLB 256K CACHE W/COOLING FAN
PENTIUM OVERDRIVE P24T READY
PANANSONIC DOUBLE SPEED CD-ROM
SOUND BLASTER 16
4MB RAM EXP TO 64MB RAM
1.2MB AND 1.44MB FLOPPY
213MB HARD DRIVE
SVGA NON-INTERLACED MONITOR
2 SERIAL, 1 PARALLEL, 1 GAME PORTS
WINDOWS ACCELERATOR 32BIT SVGA CARD
101 KEYBOARD
MICROSOFT MOUSE

486 DX2-66MHz	**$1650.00**
486DX2-50MHz	**$1495.00**
486DX-33MHz	**$1485.00**

ULTRA VESA SYSTEM

486DX2-66/50/33 MHz
486VLB 256K CACHE W/COOLING FAN
PENTIUM OVERDRIVE P24T READY
4MB RAM EXP TO 64MB RAM
1.2MB AND 1.44MB FLOPPY
213MB HARD DRIVE
SVGA NON-INTERLACED MONITOR
2 SERIAL, 1 PARALLEL,1 GAME PORTS
WINDOWS ACCELERATOR 32BIT SVGA CARD
101 KEYBOARD
MICROSOFT MOUSE

486DX2-66MHz	**$1350.00**
486DX2-50MHz	**$1145.00**
486DX-33MHz	**$1130.00**

1 Year Parts and 5 Year Labor Warranty on All Systems

MULTIMEDIA/CD-ROMS	
TOSHIBA SCSI 3401 (200MS)	$345.00
NEC SCSI-84- (285MS)	$335.00
SONY SCSI 561 (265MS)	$335.00
PANASONIC IDE -562	$210.00
MITSUMI IDE	$145.00
SOUND BLASTER PRO	$99.00
PRO AUDIO SPECTRUM	$128.00

MONITORS	
NEC 4FGE 15"	$680.00
NEC 5FGE 17"	$1060.00
MAG MX15F 15"	$460.00
MAG MX17F 17"	$870.00
VIEWSONIC 5E 14"	$352.00
VIEWSONIC 15 15"	$450.00
ADI 3E 14"	$265.00
ADI 4G 15"	$385.00
ADI 5A 17"	$720.00
IMPRESSION 3 14"	$225.00

MISCELLANEOUS	
FAX /MODEM 96/24	$48.00
FAX/MODEM 14,400	$130.00
COLORADO TAPE DRIVE 250MB	$148.00
CONNER TAPE DRIVE 250MB	$148.00
1.2MB FLOPPY	$45.00
1.44MB FLOPPY	$45.00
MICROSOFT MOUSE	$45.00
LOGITECH MOUSE	$45.00
MINI TOWER CASE W/230	$48.00
MID TOWER CASE W/230	$65.00
FULL TOWER CASE W/250	$98.00

MOTHERBOARDS	
486DX2-66MHz VLB BUS	$550.00
486DX-50MHz VLB BUS	$540.00
486DX2-50MHz VLB BUS	$420.00
486DX-40MHz VLB BUS	$385.00
486DX-33MHz VLB BUS	$385.00

VIDEO CARDS	
CIRRUS SVGA VLB W/1MB	$89.00
ORCHID FAHRENHEIT W/1MB	$145.00
DIAMOND STEALTH VLB/1MB	$145.00
DIAMOND VIPER 2MB	$348.00
ADI ULTRA PLUS W/MB	$230.00
ADI ULTRA PRO 2MB	$340.00

HARD DRIVES	
200MB HARD DRIVE	$195.00
245MB HARD DRIVE	$220.00
270MB HARD DRIVE	$235.00
340MB HARD DRIVE	$275.00
420MB HARD DRIVE	$340.00
530MB HARD DRIVE	$465.00

GENERAL MICRO CO.

TEL 415- 573-1454 FAX 415-573-0501
1163 CHESS DRIVE SUITE D FOSTER CITY , CA 94404
BUS HRS: **MON-FRI 9:00-6:00 • SAT 11:00-4:00**
Prices subject to change w/o notice. Not responsible for typographical errors.

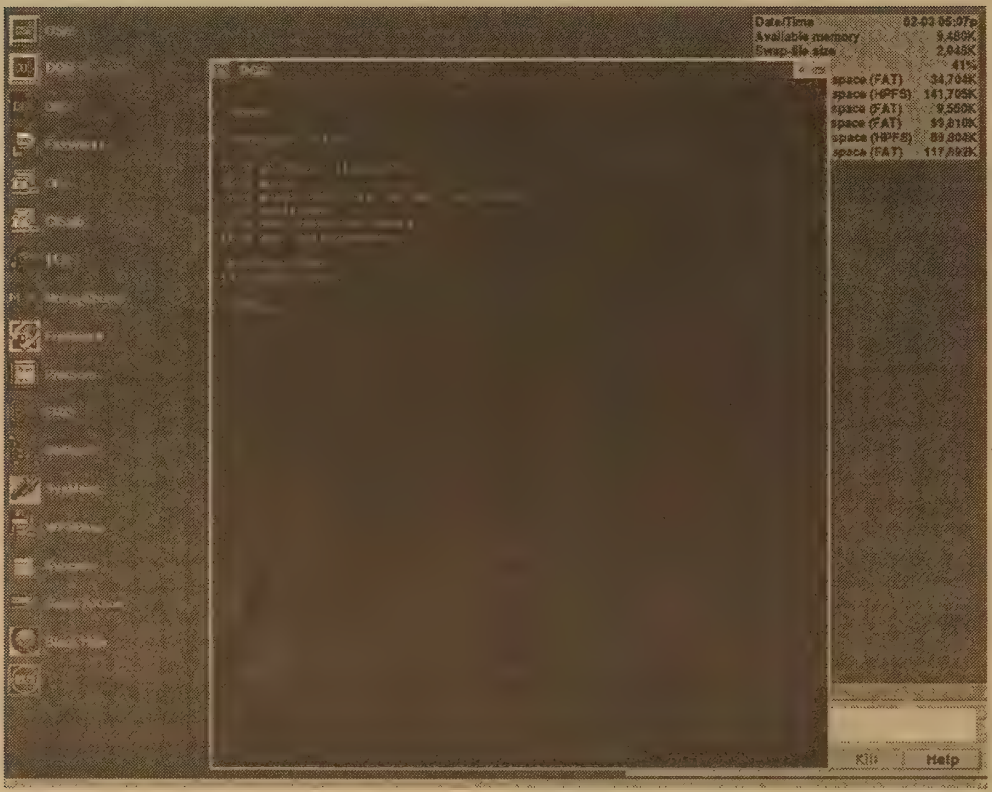


Figure 2: My Desktop

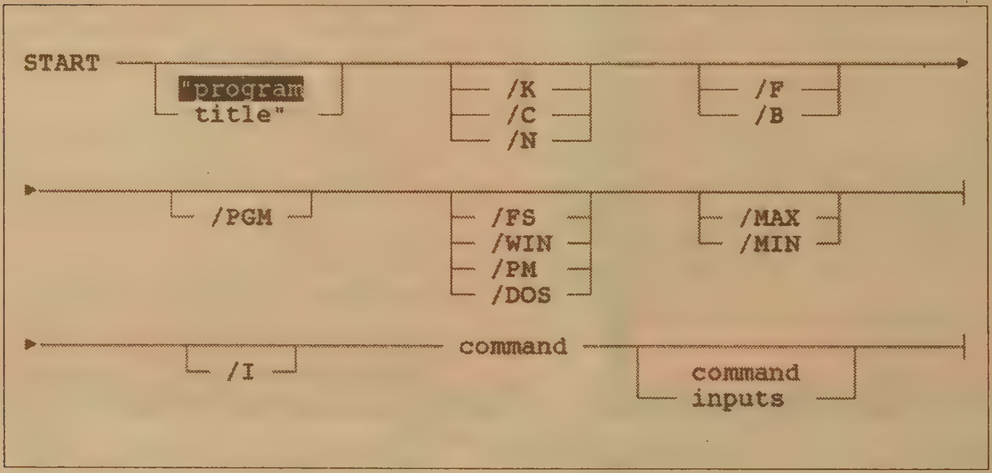


Figure 3: START Syntax

constantly throughout the day (e.g. MoneyCounts and Tapcis), I created shadows on the desktop. I'd have to have very good reasons to give up these familiar, satisfactory solutions. Thus, I use only OS/2 utilities and applications that are better than the DOS equivalents, or not available in DOS, and I created shadows for them too.

Figure 2 shows my desktop with the open DOS window and all the DOS and OS/2 desktop icons.

While I have an OS/2 command prompt window shadowed on the desktop, I rarely open it, for the reasons stated above. Examples of OS/2 utilities are FM/2, a replacement for OS/2's Drives file manager; DirMatch, which equalizes directories for simple backups; SysMaint, a cleanup and repair facility for .INI and EA files; WPSBkup, a Desktop backup/restore utility; and PrntScrn, a screen capturer. Freelance (presentations), FaxWorks (fax), and TE/2 (data communications) are examples of applications. Most of these programs are graphical (that is, PM-based), but not all. TE/2, for example, is a character-based application.

The point of a multitasking environment is to allow you to perform multiple tasks simultaneously. Only one task can run in the foreground, the rest must run in the background. Certain tasks require you to interact with them (e.g. to press keys or respond to prompts); when they're relegated to the background, their execution is suspended and will resume only when you bring them forward. Others, such as communication or printing tasks, do not require attention and can execute in the background.

How the tasks should run (background or foreground, open or close upon completion) depends on the task type and the circumstances (the other open/active tasks) under which they're invoked. For example, an automated logon to check mail could be invoked in the background, and kept open when done, so that it can be brought forward to read the mail. On the other hand, DirMatch could be invoked as a foreground application to interact with, and should close on exit. An OS/2 utility which prints text files in booklet form could be invoked in the background and closed when done, because it can execute in the background and does not require any interaction.

Consider what happens when I want to invoke tasks separate from my open DOS session. If its window (or any other open windows, for that matter) obscures the icons for those tasks (the user does not control where windows pop open), I must use the mouse to (a) minimize any obscuring windows and (b) open the desired shadows. Furthermore, when those tasks complete, I may need to (c) close or minimize them, then (d) reopen the minimized windows. With intensive multitasking this can become quite annoying, particularly since OS/2 has its own defaults for how the invoked tasks run which may conflict with what I want in each specific circumstance.

THE START COMMAND

OS/2's START command invokes tasks by name, rather than visually by icon. As its syntax in Figure 3 shows, there are many options, but only a few of them are pertinent for the average end-user, and they are discussed below (the explanation of the options is disorganized, and sometimes confusing).

You can START a command prompt window, an operating system command, or an application (including utilities and batch files). Without any option, START defaults to opening a new OS/2 command prompt

PC WORLD #1 "BEST BUY"

November 1993, January & February 1994

PC WORLD BEST BUY

Late Breaking News!

The *NETiS N433VL* and *N4D266VL* systems are ranked #1 and #2 respectively in the PC World's Top 20 PC list, February 1994.

"Service and support are decent, with responsive, accurate tech support ... (*NETiS N433VL*) with reasonable performance and feautres that should last a few years."

- PC World February 1994

MICROSOFT® WINDOWS READY-TO-RUN

MICROSOFT® WINDOWS NT™

intel inside

"The *NETiS N4D266VL*'s fine performance, low price, and super support make it the hands-down winner for top overall Best Buy"

- PC World January 1994

"The Best Buy system from *NETiS* Technology represents a remarkable combination of low price and high performance."

- PC World November 1993

#1 in the PC World Top 20

N433VL BEST BUY

- ☐ Intel 486DX-33 CPU
- ☐ 8MB memory, 128KB cache
- ☐ 3 VL-Bus (VESA Local Bus) slots
- ☐ **Pentium-ready ZIF socket**
- ☐ 270MB hard drive
- ☐ **32-bit VL-bus IDE controller**
- ☐ 1.2MB or 1.44MB TEAC floppy drive
- ☐ **Genoa VL-Bus Graphics with 1MB**
- ☐ 14" SVGA color monitor, .28mm
- ☐ 2 serial/1 parallel/1 game port
- ☐ 101-key keyboard
- ☐ Desktop case with power supply

$1,410

with 486SX-33 CPU $1,259
with 486DX2-50 CPU $1,429

OPTIONS for *N433VL BEST BUY*:

4MB 70ns memory installed	Sub	$140
Upgrade to 256K cache	Add	$25
340MB IDE hard drive	Add	$45
420MB IDE hard drive	Add	$135
Promise VESA VL-Bus IDE w/2MB	Add	$180
Orchid Celsius VLB with 2MB	Add	$179
Diamond Viper VLB with 2MB	Add	$260
14" NI .28mm SVGA monitor (1280x1024)	Add	$45
15" non-interlaced SVGA monitor 72Hz	Add	$130

COMMON OPTIONS:

MS DOS 6.2/Windows 3.1	$45/$50
9600/2400 bps internal fax modem	$42
14,400 bps internal fax modem	$130
Colorado 250MB tape backup drive	$152
Logitech serial /bus mouse	$52/62
Microsoft serial 2.0 mouse	$38
290/400 dpi serial mouse	$12/$17
Full /Middle tower case	Add $50/$20
Northgate OMNI/Ultra keyboard	$70/$92
High speed serial port (16550 UART)	$35
Media Concept 2.0 plus	**$46**
SoundBlaster Pro Deluex/16 Basic	$119/$138
SoundBlaster 16 ASP MCD/SCSI	$208/$231
Media Vision Pro Audio Spectrum/Studio	$134/$220
Mitsumi CD-ROM (double speed)	$195
NEC CDR-510 3X SCSI CD-ROM	$439
Panasonic CR-562 CD-ROM double speed	$189
TEAC CD-50 Multispin SCSI CD-ROM	$318
Toshiba 3401B double speed SCSI CD-ROM	$369
Multi-Media Family kit	$449
Double-Speed CD-ROM, SoundBlaster 16 Basic 16-bit sound card, and 6 CD title	
CD-ROM titles	CALL

Free 3500+ programs with system & CD-ROM purchase

ADD $30 for GREEN PC

NEW!

PENTIUM SYSTEMS

CALL FOR SPEC & PRICING!

#2 in the PC World Top 20

N4D266VL POWERSTATION

- ☐ Intel 486DX2-66 CPU with cooling fan
- ☐ 4MB memory, 256KB cache
- ☐ 3 VL-Bus (VESA Local Bus) slots
- ☐ **Pentium-ready ZIF socket**
- ☐ 270MB hard drive
- ☐ **2MB VL-bus caching IDE Controller**
- ☐ Both 1.2MB & 1.44MB TEAC floppy drives
- ☐ **Genoa 32-bit VL-Bus Graphics w/1MB**
- ☐ **14" non-interlaced .28mm SVGA color monitor with LED display (1280x1024)**
- ☐ 2 serial/1 parallel/1 game port
- ☐ 101-key keyboard & mouse
- ☐ Desktop case with power supply

$1,679

with 486DX-33 CPU $1,489
with 486DX2-50 CPU $1,518

OPTIONS for *N4D266VL POWERSTATION*:

8MB memory	Add	$180
340MB IDE hard drive	Add	$45
420MB IDE hard drive	Add	$135
540MB IDE hard drive	Add	$275
Orchid Celsius VLB w/2MB	Add	$179
Diamond Viper VLB with 2MB	Add	$260
15" NI .28mm SVGA monitor (1280x1024)	Add	$85
17" SVGA monitor0.26 & Low Emission	Add	$450
BusLogic VL-bus SCSI controller	Add	$50

NEC Authorized Reseller

IBM VAE RESELLER

Hewlett Packard VAR

☑ PC WORLD "BEST BUY" SYSTEMS
☑ *NETiS* NETWORKING EXPERTISE

TOTAL BUSINESS SOLUTION

Novell Gold Authorized Reseller

Novell Certified NetWare Engineer

- Networking hardware/software
- Network design, installation & trainning
- Turnkey solution/system integration
- One-stop solution for small businesses
- Top-notch expertise/support in Novell NetWare, Novell UnixWare, Windows NT, SCO UNIX/ODT, Lantastics & TCP/IP Networking

NETWORK SOLUTIONS:

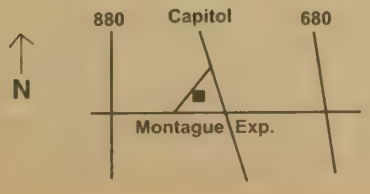
- File/Print Server
- Backup Server
- FAX Server
- CDROM Server
- NetWare/UNIX Connectivity
- Mail Server/Gateway

BEST VALUES

3COM/SMC/Intel/DLink Networking	CALL
16-bit Ethernet Card (BNC or 10BaseT)	$42
16-bit 3-in-1 Combo Ethernet Card	$46
9-port 10BaseT Ethernet Hub	$195
12-port 10BaseT Ethernet Hub	$315
File Server Configuration	CALL
External Hard Disk Subsystem	CALL

TERMS AND CONDITIONS

- 1 year warranty on parts and labor
- Life time technical support
- 48-hour system burn-in
- Prices/specification subject to change
- Not responsible for typos
- Prices reflect cash discount



NETiS Technology, Inc.

1606 Centre Pointe Drive, Milpitas CA 95035
Tel: (408)263-0368 Fax:(408)263-4624
BBS: (408)263-5738
Hours: 8AM-6PM (Mon-Fri), 10AM-4PM(Sat)

NetWare v3.11/v4.0

INCREASE YOUR INCOME & JOB MARKETABILITY

SYSCON

BECOME A CNE

Certified NetWare Engineer

CNE Quick Course

IN 1 WEEK!

CNE CLM School Is Time Well Spent!

- Novell Authorized Facility & Instructors
- Instructors with Field Experience
- Exclusive-CNE Helps & Aids
- Superior Test Preparation
- Satisfaction Guaranteed

TIME IS WASTING...CALL TODAY!

Certified Network Educators
1-800-9NOVELL

We Buy And Sell Excess Inventory!

We have a large inventory of computers & peripherals.

Brand Name Products from:

APPLE - HP - IBM - NEC - EXABYTE - MAXTOR
SONY - TEKTRONIX - NANAO - PANASONIC
WAVETRACER - EPSON - HOWTEK

Everything from:

Computers, PC - Mainframe, Printers, Plotters, Monitors, Hard Drives, Scanners, Video Cameras, Test Equipment, and much more!

Printer Sale - Hurry - Limited Stock!

IMAGEN 3320 Laser Printer	$2500
VARITYPE VT600 Laser Printer	4500
APPLE Image Writer II Printer	135
TOSHIBA P1351 Dot Matrix	125

GR ELECTRONIC SURPLUS
1512 Fulton Place, Fremont, CA 94539
510-683-8876 Fax: 510-683-0625

Prices subject to change. Not responsible for typo's

window in the background. You can use the options to control the type of tasks you want to start, and how you want them to execute.

External commands and applications which do not require screen interaction (all PM-based ones do) can be STARTed directly, without invoking a command processor (CMD.EXE) session, by using the /N option.

When opened iconically, a session acquires as its title the program name in its Settings Notebook; the title is displayed in the session's Title Bar. START gives sessions default titles (e.g. CMD.EXE for an OS/2 command prompt window, or XCOPY for the command), but you can specify a title within double quotes if you so desire. If the title is unimportant to you (it is to me), accept the defaults. But if you choose to title the session, use the /PGM option to distinguish it from the task's name (also in double quotes).

START automatically detects if an application is OS/2- or DOS-specific and activates them accordingly. However, if you want to just open a command prompt window, START can't tell whether you mean OS/2 or DOS, and will default to the former unless you use the /DOS option. OS/2 command sessions default to windowed, and the /FS (full-screen) option can be used to override it. The opposite is true of VDMs: they default to full-screen, and /WIN is required to override that. Tasks START in the foreground, and the /B option can be used to override that. Similarly, you can use the /MAX options to override the START default and maximize the task on the desktop. Finally, you can use the /K (keep) or /C (close) to control whether the STARTed session for the task will be kept open, or will close on the task's completion.

Your use of the options must be sensible. For example, STARTing a task that requires interaction with /B, or a character application with /PM does not make sense.

START has, however, one limitation that, given my basic reliance on a DOS VDM, limits its usefulness: it only works from an OS/2 prompt. But there is a public domain replacement, HSTART, which extends START's capabilities to DOS VDMs (available in the CompuServe OS/2 forums). HSTART has one additional advantage: it allows you to start a DOS session with specific session settings by using a /S:filename option, which specifies the file containing the settings. Without this option, HSTART uses the default file, HSTART.CFG, which, as shown in Listing 1, is ASCII and user modifiable.

```
*********************************************************************
Default Settings for VDM & VMB dos sessions
* Belong to HSTART.EXE - Henk Kelder
* See settings.txt for more details.
*********************************************************************
SET DOS_AUTOEXEC=E:\AUTOEXEC.BAT; The default autoexec
SET DOS_BREAK=1;
SET DOS_FILES=60;
SET DOS_HIGH=0;
SET DOS_STARTUP_DRIVE=E:\OS2\MDOS\DOS5KRNL;
SET DOS_UMB=0;
SET DOS_VERSION=NETX.EXE^,5^,0^,255,MSD.EXE^,5^,0^,255;
SET DPMI_DOS_API=ENABLED;
SET DPMI_MEMORY_LIMIT=64;
SET EMS_FRAME_LOCATION=AUTO;
SET EMS_LOW_OS_MAP_REGION=0;
SET EMS_HIGH_OS_MAP_REGION=0;
SET EMS_MEMORY_LIMIT=0;
```

PC WAREHOUSE

WORLD OF NOTEBOOKS

IBM

THINK PAD 350-125/250MB..........................$BEST
THINK PAD 350C-125/250MB......................$BEST
THINK PAD 500-85/170MB...........................$BEST
THINK PAD 750/CS-170/340MB...................$BEST
THINK PAD 750C-170/340MB.......................$BEST

TOSHIBA

T1910CS-120.........................$CALL
(486SXA-33,4MB,120MB,COLOR)
T1950CS/CT-200/320..$2815/CALL
(486DX2-40,4MB,200/320MB,ACTIVE)
T3400CT-120.........................$CALL
(486SX-33,4MB,120MB,ACTIVE
INTEGRATED POINTING DEVICE)

T4600C-200/320..............$CALL
(486SL-33,4MB,320MB,ACTI.E)
T4700CT-320...................$CALL
(486DX2-50,8MB,340MB,ACTIVE)
T6600C510CDV...............$CALL
(486DX2-66,8MB,510MB,CD-ROM
DVI BOARD,ETHERNET)

NEC

Versa 40E/EC-250.........$CALL
Versa 40EP/ECP-250.....$CALL
(TouchPen)
(486DX2-40,4-40MB RAM)
Versa 50E/EC-340.........$CALL
Versa 50EP/ECP-340.....$CALL
(TouchPen)
(486DX2-50,4-40MB RAM)
3 Year Standard FactoryWarranty
2 Additional Years for $99

SHARP.

8150 Dual Scan Color...$BEST
(486DX-33,4MB RAM,200MB,PCMCIA)
8650 Active Color.........$2949
(486DX-33, 4MB RAM,200MB,PCMCIA)

HEWLETT PACKARD

Omnibook 300-40..........$1149
(386 Sub-Notebook,2MB RAM,40MB)
Omnibook 425...............$1699
(486 Sub-Notebook,2MB RAM,40MB)

Special Canon

Notebook with Build in Bubble Jet
NoteJet2 135MB............$2199
(486SLC-25 ,4MB RAM)

CITIZEN™

Citizen Notebook Printer II
$309 with color kit
360 x 360 dpi
2 Page per Minute(Up to 210 cps)
2.2lbs without Battery
Call for all assessories

NEW EPSON

ActionNote 500C
486SLC 2/50, 4MB RAM
Enhanced Passive Color
local Bus Video
Logitech Trackman Mouse
DOS ,WINDOWS

$1995(120MB) **$2085**(180MB)
One Year On-Site Warrenty

ARCHE

486SLC-33/4MB RAM
120MB...............$1259
260MB...............$1399
24/94 Fax/Modem.......$159

COMPAQ

Contura Aero..................$CALL
Contura 4/25/209............$2139
Contura 4/25/120CX.......$3159
Compaq 3 Year warranty

Concerto 433/250.........$CALL
*Presario......................$CALL
*Deskpro......................$CALL
*Desktop Systems

NEC Ready System

Ready 425CD2
PM-1290-2461C
486SX-25 4MB RAM to 32MB
170MB HDD
NEC CD ROM
$1699

16-bit stereo soundcard
Media Vision JAZZ16
Labtec CS-800 Amplified Speaker
Microphone Headphone

Ready 433CD3
PM-1300-24411C
486SX-33 4MB RAM to 32MB
250 MB HDD
NEC 3Xi triple-speed CD ROM
$2199

High Quality Desktop Systems

High Performance VESA System

Intel 486CPU
256K Cache
8MB RAM
Teac 1.2MB FDD
Teac 1.44MB FDD
Quantum 270MB IDE HDD
VLB 2H/2F IDE Controller
2S,1P,1G ports
Orchid Fahenheit w/1MB
Mid-Tower Case
w/250W Power Supply
NEC SVGA Monitor
Enhenced 101 Keyboard
3 Botton Mouse

DX/50 $1699
DX2/66 $1949

Top of the Line Multimedia System

Intel 486CPU
256K Cache 8MB RAM
Teac 1.2MB FDD
Teac 1.44MB FDD
Quantum 340 MB IDE HDD
VLB IO/ IDE Controller
Stealth Pro 2MB VRAM
Mid-Tower Case
w/250W Power Supply
NEC 3V Monitor
Toshiba 3401B CD ROM
Proaudio Spactrum 16
Enhenced 101 Keyboard
Microsoft Mouse

DX/50 $2699
DX2/66 $2799

PENTIUM SYSTEM

Intel 586CPU
256K Cache
16 MB RAM
Teac 1.2MB FDD
Teac 1.44MB FDD
Maxtor 540 MB SCSI HDD
PCI SCSI Controller
VIPER-PCI 2MB VRAM
Mid-Tower Case
w/250W Power Supply
NEC 3V Monitor
Enhenced 101 Keyboard
Microsoft Mouse

60Mhz $3829
66Mhz $3999

We Are Hi-End System Specialist
Customized Computer Builder

LaserJet & InkJet Printers

HEWLETT PACKARD

DeskJet500.................$295
DeskJet500C..............$385
DeskJet550C..............$495
DeskJet1200C...........$1439
DeskJet1200cw/PS....$2149
LaserJet 4L/4ML..$669/999
LaserJet 4P/4MP.$985/1359
LaserJet 4/4M...$1389/1899
LasetJet 4si...............$2989
LaserJet 4siMx.........$4489

Scanners
ScanJet IIP...............$689
ScanJet IIcx.............$969
Call for all accessories

CITIZEN GSX-230

ONLY $195
24 Pin Dot Matrix
Color Printer

EPSON

Stylus 800.............$279
Action 1000..........$595
Action 1500..........$659

NEC

Silenwriter1097.......$1359 *ONLY*
Comparable to HP4M

Canon

BJ-200E..................$299
BJ-230....................$399
BJC-600..................$599

Monitors

NEC SVGA......$349
NEC 3V.............$529
NEC 3FGe........$589
NEC 4FGe........$689
NEC 5FGp.....$1279
NEC 5FGe.....$1089
NEC 6FGp......$2399

SONY 1430S.........$529
SONY 1730...........$989
SONY 17SE1.......$1179
SONY 2038.........$2189
Viewsonic15..........$449
Viewsonic17..........$995
Viewsonic20........$1565

Video Cards

Trident 1024 1MB................................$65
Cirrus LogicVLB 1MB..........................$89
ATI GraphicUltra Pro VLB 2MB........$359
Orchid Fahrenheit VLB 1MB............$159
Diamond Viper VLB 2MB VRAM.....$399
Diamond Stealth 24 VLB 2MB..........$169
Stealth Pro VRAM 1MB/2M.......$259/349

Miscellaneous

Toshiba CD ROM 3401B..........$325
Toshiba CD ROM 4101B..........$215
Adaptec 1542cfw/kit..................$249
Adaptic 2742tkw/kit...................$369
Adaptic 2842 vl...........................$299
Zoltrix 24/96 Fax/Modem.............$49
Zoltrix 144 Fax/Modem..............$139

Sunnyvale

1082 E. El Camino #3
(Btw Lawrence & Henderson)
408-985-1309

MON-FRI 9AM-6PM
SAT 10AM-5PM
Financing Available

Prices & Specs are subject to change w/o notice
Advertised prices are based on 2% cash discount
Not responsible for typographical errors

Palo Alto

454 A California Ave
(Btw El Camino & Alma)
415-321-9288

```
SET HW_TIMER=1;
SET IDLE_SENSITIVITY=78;
SET INT_DURING_IO=1;
SET KBD_ALTHOME_BYPASS=1;
SET KBD_CTRL_BYPASS=CTRL_ESC;
SET NETWARE_RESOURCES=GLOBAL ;
SET VIDEO_8514A_XGA_IOTRAP=0;
SET VIDEO_ONDEMAND_MEMORY=0;
SET VIDEO_MODE_RESTRICTION=CGA ;
SET VIDEO_RETRACE_EMULATION=0;
SET VIDEO_SWITCH_NOTIFICATION=1;
SET XMS_HANDLES=0;
SET XMS_MEMORY_LIMIT=0;
```

Listing 1: HSTART.CFG File

HSTART has the same options as START (/PGM is not supported) but some defaults are the reverse of START. For example, the defaults for command sessions are /WIN and /B, while for START they are /FS and /F. The developer also reports some restrictions and bugs and I could not get the /DOS option to work. Since it is free, you may want to try HSTART and see if it works for you. Here's how I would use it.

For DOS and OS/2 command prompt sessions in the foreground I would create the one-line batch files DOSF.BAT and OS2F.BAT as follows:

```
DOSF.BAT: d:\ut2\HSTART /DOS /F
OS2F.BAT: d:\ut2\HSTART /F
```

For those OS/2 PM utilities that I use with such regularity that I find icons inconvenient I would create slightly different batch files. FM.BAT and DM.BAT are examples for FM/2 and DirMatch.

```
FM.BAT:
d:\ut2\HSTART "FM/2" /C d:\fm2\fm2.exe
DM.BAT:
d:\ut2\HSTART "DirMatch" /C d:\ut2\dcomp2.exe
```

The default is foreground, and the sessions would close on exit (/C).

For character-based utilities such as the booklet-printing one called LJL, I would create batch files like 2UP.BAT

```
2UP.BAT:
d:\ut2\HSTART "DM2" /C "d:\ut2\ljl %1
/NoLineNumbers/NoGreyBar /Quiet
```

which execute in the background (the default) and close on exit. Depending on circumstances, I would simply type the name of the proper batch file at the DOS prompt in my VDM, which opens the desired session or application where and how I want it. The same files with a .CMD extension can be used from the OS/2 prompt.

Once you get the gist of the command, you can utilize it more creatively, in accordance with your own specific needs. It's an alternative to clickophobia. ■

ALL 100% GUARANTEED PARTS

IMD

WE ARE YOUR BEST SOURCE FOR COMPONENTS
WE WON'T BE UNDERSOLD!

WE WILL TRADE YOUR OLD MEMORY FOR NEW

SIMM MODULES

IBM COMPATIBLE

4M X 9-80	$139
4M X 9-70	155
4M X 9-60	165
1M X 9-10	37
1M X 9-80	45
1M X 9-70	49
1M X 9-60	55
1M X 3-80	36
1M X 3-70	38
1M X 3-60	41
256 X 9-10	7
256 X 9-80	10
256 X 9-70	12
256 X 9-60	13

APPLE/MAC

1M X 8-10	$35
1M X 8-80	41
1M X 8-70	43
4M X 8-80/70	129/145

DRAM

1M X 1-80	$\$5^{99}$
1M X 1-70	6^{50}
1M X 1-60	6^{80}
1M X 4-80/70	CALL
256K X 1-80	1^{65}
256K X 1-70	1^{80}
256K X 1-60	1^{95}
256K X 4-80	5^{00}
256K X 4-70	5^{50}
256K X 4-60	5^{75}

CPU'S

486DXII-66 INTEL	$440
486DXII-50 INTEL	289
486DX-50 INTEL	409
486DX-33 INTEL	265
486DX-25 INTEL	199
486SX-25 INTEL	85
486SX-33 INTEL	125
386DX-33 INTEL	49
386DX-40 AMD	49
386DX-25 INTEL	30
386DX-25 AMD	32
386SX-25 INTEL/AMD	30
386SX-20 INTEL	27
386SX-16 INTEL	18
386DX-20 INTEL	22

EPROMS

27C20-15NS	$\$7^{50}$
27C10-15NS	5^{50}
27C040-15NS	12^{50}
5104402-80 (1X4) SST,ZIPP	21
5104400-80 (1X4) ZIPP	19
5104400-80 (1X4) DIPP	21
5104400-80 (1X4) SOJ	16
5104400-80 (4X1) SOJ	15

MOTHERBOARD WITH CPU

486DX-50 W/256K CACHE	$578
486DX-33 W/64K CACHE	378
386DX-40 W/64K CACHE	119
386DX-33 W/64K CACHE	129
386SX-16 W/CPU	79
386SX-25 W/CPU	99
386SX-33 W/CPU	129

SUN MEMORY

SPARC SLC	4MB	$139
3/60,80,4/40,60,65	4/16MB	139/490
SPARC 1 & 1+, 1PC	4/16MB	139/495
SPARC 10	16/64MB	639/CALL
SUN CLASSIC	16MB	619
SPARC SERVER 630NP	64MB	CALL
SUN, IPX, ELC	4/16MB	169/549
SPARC II	16MB	559

TOSHIBA PORTABLE MEMO-

T1 200XE	2MB CARD	89
T1 600	2MB CARD	99
T3100SX	2MB CARD	85
	4MB CARD	169
T3100E	512K CARD	CALL
	2MB CARD	85
T3200SX	2MB CARD	89
	4MB CARD	CALL
T3200	3MB CARD	175
T1000SE; XE	1MB CARD	89
T5100	2MB CARD	99
T5200;8500	2MB	99

WE STOCK HARD DRIVES, FLOPPY'S, MONITORS AT COMPETITIVE PRICES. PLEASE CALL
CALL FOR BEST PRICES ON SCSI & IDE HARD DRIVES NOT LISTED!

OPEN M-F 8:30-5:30
SAT 10:30-2

CACHE MEMORY

32X8-25	$\$4^{00}$
32X8-20	5^{00}
32X8-15	5^{50}
64X4-20	5^{75}
64X4-25/15	$6^{75}/9^{75}$
64X4-20/25	$9^{80}/6^{59}$

72 PIN SIMMS

2MB 604-80ns	$79
4MB 1X36-80ns	165
4MB 1X36-70ns	175
8MB 2X36-70ns	349
16MB 4X36-70ns	609
16MB 4X32-70ns	579

MATH CO'S

387DX 16-33 INTEL	$72
387DX INTEL	69
387SX 25,20,16	CALL
387DX 33,25,20 CYRIX	69
4167-33 WEITEC	499
4167-25 WEITEC	319
3167-33 WEITEC	199
3167-25 WEITEC	99
80487SX ALL SPEEDS	299
80487SX-20 OVERDRIVE	289
80487SX-25 OVERDRIVE	429
80487SX-33 OVERDRIVE	549
80486DX-25 OVERDRIVE	439
80486DX-33 OVERDRIVE	559

LASER PRINTER MEMORY

HP II &IID, CANON LBP-811 & LBP-811R, OLIVETTI PG 108 & PG 208	
1MB BOARD	$79
2MB BOARD	109
4MB BOARD	169
HP IIP, III, IIID	
1MB BOARD	79
2MB BOARD	109
4MB BOARD	169
IBM 4019 & 4019B	
1039136 1MB BOARD	105
1039137 2MB BOARD	139
1038675 4MB BOARD	299
IBM 2029e	
1MB	75
2MB	99
4MB	175
TI MICROLASER & MICROLASER PS	
1MB	85
PANASONIC KX-P4420, KX-P44501	
1MB BOARD	129
2MB BOARD	157
4MB BOARD	229
EPSON EPL-6000; TOSHIBA PAGELASER 6; PACKARD BELL PP9500; FACIT P6060; MANNESMAN TALLY 905; AT&T 593 LASER; NCR 6435 LASER	
1MB BOARD	155
2MB BOARD	160
4MB BOARD	260

TEL: 408-452-7700
FAX 408-452-7771
1630 OAKLAND RD. A108
SAN JOSE, CA 95131

MasterCard VISA

IMD INTERNATIONAL MICRO DEVICES

ASK ABOUT OR SYSTEM LEASE PROGRAM

IMD Offers complete satisfaction with every transaction. Same day shipping. Prices subject to change without notice. All trademarks are the property of their respective own-

MEMORY
We Buy and Sell DRAM, SIMM, SIPPS
At Very Good Prices, IBM Compatable & APPLE
Call For Latest Prices & Availability

COMPAQ
PARTS & ACCESSORIES
30% OFF

apple
LOWEST PRICES ON MEMORY
SPECIAL!!
8 MB 30 Pin SIMMS....$256
426 MB HARD DRIVE...$375

IBM & COMPATIBLES
LOWEST MEMORY PRICES

WE CERTAINLY WELCOME OEM & RESELLERS

- WE BUY SCRAP BOARDS w/MEMORY or CPU's...TOP PRICES!!
- WE ARE LOOKING FOR USED 1MBx1,80/70/60ns DIP's

C.G.I. TECHNOLOGY

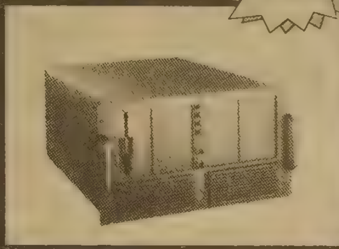
CALL FOR LOWEST GUARANTEED PRICE!
(408) 973-9840
Fax: (408) 973-8710

19" RACKMOUNT ENCLOSURE CALL

19" RACKMOUNT W/MONITOR CALL

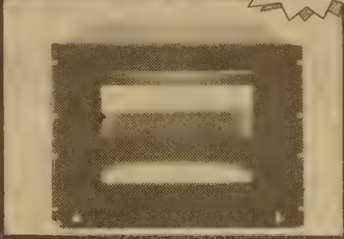
- 19" Rackmounting
- Integral Monitor
- 10" .28 dot pitch SVGA Color
- 9" Mono-TTL or VGA
- 8 or 14 Slot Passive Backplane
- 8 Slot Motherboard Mounting
- U.S.A. Manufactured

19" RACKMOUNT ENCLOSURE CALL

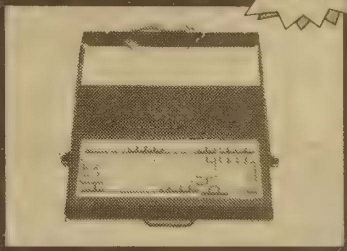


- 8, 14 & 20 Slot Options
- Dual Power Supplies
- Power Supply Redundancy Option
- 8 Drive Bays
- 8 Fans
- Motherboard or Passive Backplane
- 200-1000 Watt Power Supply
- USA Manufactured

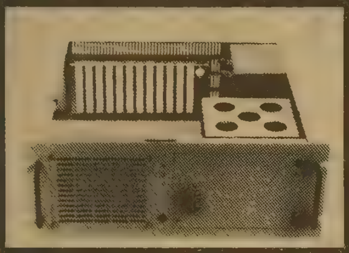
19" RACKMOUNT MONITOR KIT CALL



19" RACKMOUNT KEYBOARD CALL



MADE IN U.S.A.

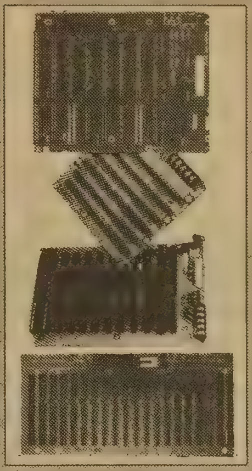


CENTRALIZED LAN SYSTEM

Features:

- FILE SERVER
- MULTI-COMMUNICATION SYSTEM
- MULTI-FUNCTIONAL SYSTEM
- 24 DIFFERENT SYSTEMS CAPABILITY RUNNING AT SAME TIME
- CAPABLE OF CUSTOMIZED SPECIFICATIONS

PASSIVE BACKPLANE BOARD

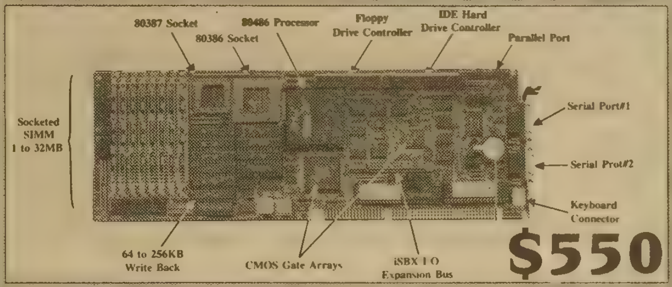


6 SLOT	$53
8 SLOT 6 AT & 2 XT	$35
8 SLOT	$59
12 SLOT	$90
14 SLOT	$94
18 SLOT	$180
20 SLOT	$194

SPECIAL OPTION

- 14 SLOT SEGMENTED 6,4,4
- 18 SLOT SEGMENTED 5,4,4,5
- 20 SLOT SEGMENTED 5,5,5,5

386 & 486 ALL -IN-ONE CPU CARD



$550

- 4 Upgradable Models using Intel CPU's
  - -80386DX-33 MHz
  - -80486SX-33 MHz
  - -80486DX-33 MHz
  - -80486DX2-25/50 & 33/66 MHz
- 80386 & 80486 Upgradable Processor with AMI BIOS
- 256K Write Back Cache Memory
- Up to 32 MB of 70ns SIMM DRAM
- IDE Hard Disk & Floppy Disk Controller
- 2 Serial/1 Parallel Ports
- 80387 Co-Processor, 80486DX Internal Co-Processor
- Watch Dog Timer Can Be Set 500ms or 1sec, time out
- Programmable shadow RAM Capacity
- 6-Layer PCB Design To Meet Factory Floor Requirements

14" SVGA COLOR MONITOR

- CRT 14" DIAGONAL NON-GLARE FLAT
- DOT: [illegible]
- RES: 1024 X 768 NON-INTERLACE, 800 X 600, 720 X 400, 640 X 480, 640 X 350
- POWER SUPPLY: 120-240V AUTO SELECTION

9" SVGA MONITOR MONO PAPER WHITE

- CRT: 9" x 90 DEFLECTION NON-GLARE PAPER WHITE
- RES: 1024x768, 720x400, 640x480
- POWER SUPPLY: 100-240V

17" SVGA COLOR MONITOR

- CRT: 17" Non-Glare Etched w/dynamic focus, Invar shadow mask, Flat Sqaure Tube
- DOT: 0.26mm
- RES: 1280 x 1024 Non-Interlaced 800x600, 1024x768
- VESA, VGA, & Macintosh Compatible
- COLORS: Unlimited
- POWER SUPPLY: 90-260 Auto Switchable

Only $900

HYUNDAI

1. COLOR MONITORS

Model	DESCRIPTION	PRICE
HMC-423B	14" SUPER VGA .39 Dot Pitch	$248
HCM-423E	14" SUPER VGA .28 Dot Pitch	$300
HCM-433E	14" SUPER VGA .28 Dot Pitch Non-Int	$350

2. MONOCHROME MONITORS

Model	DESCRIPTION	PRICE
WEN	9" SVGA MONO PAPER WHITE	$150

*WE WELCOME RESELLERS
*FOR MORE INFORMATION PLEASE CONTACT MULTI-MICRO SYSTEMS

Multi-Micro systems

TEL: (408)-456-0333
(800)-875-0333
FAX: (408) 456-0366

Terms & Conditions

Prices subject to change without notice. Not responsible for typos or errors. Prices based on cash. Please ask about products not listed in this advertisement. 1 year warranty on parts.

2124 Zanker Road • San Jose, CA 95131 • Mon-Fri: 9am-6pm

PENTIUM 60 MHz 4 MB RAM VESA LOCAL BUS	$1568	Motherboard/CPU $1280
AMD Processor VESA LOCAL BUS 486-66DX2 128K CACHE SYSTEM	$698	Motherboard/CPU $518
INTEL Processor VESA LOCAL BUS 486-66DX2 128K CACHE SYSTEM	$758	Motherboard/CPU $588
VESA LOCAL BUS 486-50DX 128K CACHE SYSTEM	$718	Motherboard/CPU $548
AMD Processor VESA LOCAL BUS 486-50DX2 or 40 MHz 128K CACHE SYSTEM	$538	Motherboard/CPU $348
INTEL Processor VESA LOCAL BUS 486-50DX2 128K CACHE SYSTEM	$588	Motherboard/CPU $408
VESA LOCAL BUS 486-33 128K CACHE SYSTEM	$558	Motherboard/CPU $378
VESA LOCAL BUS 486SX-33 128K CACHE SYSTEM	$388	Motherboard/CPU $208
VESA LOCAL BUS 486SX-25 128K CACHE SYSTEM	$358	Motherboard/CPU $178
AMD Processor 486-66DX2 128K CACHE SYSTEM	$668	Motherboard/CPU $488
INTEL Processor 486-50 128K CACHE SYSTEM	$698	Motherboard/CPU $518
AMD Processor 486-50DX2 128K CACHE SYSTEM	$498	Motherboard/CPU $318
486-40 128K CACHE SYSTEM	$508	Motherboard/CPU $328
486-33 128K CACHE SYSTEM	$528	Motherboard/CPU $348
486-25SX 128K CACHE SYSTEM	$338	Motherboard/CPU $158
386-40 128K CACHE SYSTEM	$288	Motherboard/CPU $105

BASIC SYSTEM CONFIGURATION:

- 1MB RAM Expandable
- IDE 2FD/2HD Controller
- 101 Key Mitsumi Keyboard
- Teac 1.2 or 1.44 MB Floppy Drive
- 2 Serial, 1 Parallel, 1 Game Ports
- Mini-Desk Top or Tower Case
- Power Supply
- One Year Warranty

LIFETIME LABOR WARRANTY ON SYSTEM!

486-40 MHz
MULTIMEDIA COMPLETE SYSTEM SVGA w/CD-ROM

PACKAGE INCLUDES:

- 486-40 MHz w/128K Cache • AMD 80486-40 CPU
- 4 MB RAM • 170 MB Hard Drive
- Panasonic CD-ROM Model 562
- Sound Blaster Pro Deluxe
- 1.2 and 1.44 MB Floppy Drive
- 14" SVGA 1024x768 .28mm Color Monitor
- SVGA Card w/1MB
- IDE Controller (2S/1P/1G)
- 101 Keyboard
- Labtec CS-150 Speakers

$1499

CALL FOR OTHER CONFIGURATIONS & OPTIONS

486 SYSTEM SPECIAL!
50MHz SLC ISA SYSTEM

PACKAGE INCLUDES:

- 4 MB RAM • 170 MB Hard Drive
- Teac 1.2 & 1.44 MB Floppy Drives
- Trident 1 MB SVGA Card
- 1024 x 768 .28 SVGA Monitor
- 2 Serial, l Parallel 1 Game Ports
- 101 Keyboard
- Mini-Tower or Mini Desktop Case
- Microsoft Compatible Mouse
- IDE 2FD/2HD Controller

$979

VIDEO CARDS

ATI Ultra Pro VLB 2MB	$345
ATI Ultra Pro 2MB ISA	345
ATI Ultra Plus 2 MB DRAM	229
Diamond Stealth 24	138
Diamond Stealth 24 VLB (S3 Chip)	138
Diamond Stealth Pro (VRAM) 1/2 MB	239/318
Diamond Viper 2MB VRAM	375
Diamond Speedstar 1MB VLB	104
ORCHID FAHRENHEIT ISA/VLB	150
GENOA VESA LOCAL BUS	108
GENOA PHANTOM 32i 2 MB	219
GENOA PHANTOM 42i PCI 2 MB	249
ET 4000 1024x768 NON-INT	79
Trident VLB 1 MB	75
TRIDENT VGA (1024x768) 1MB	59
Accumos VGA 800x600/256K	28
Accumos 1024x768/512K	39
GENERIC Monochrome Graphics w/Printer Port	17

DRIVE CONTROLLERS

AIR VESA IDE/SCSI w/2S, 1P	$135
DTC 3280 SCSI	95
IDE Controller w/2S/1P/1G	19
IDE 4F/2H/2.88	29
IDE I/O VLB (Kouwell) 2S/1P	35
Adaptec SCSI 1542C w/software	185/248
Adaptec SCSI 2742T EISA w/Floppy & Software (14 SCSI Devices Support)	395
Adaptec VLB 2842VL w/Software	295
Ultrastor VLB SCSI II 32K Cache	265

I/O CARDS

AT I/O (2S 16550/1P/1G) Hi-Speed	$42
RS-232 card	17
AT-I/O (2S/1P/1G)	15
Printer Card	12
Game Card	12

KEYBOARDS

Keytronic 101	$37
Mitsumi 101	30
Chicony 5161 101 Keyboard (clicking)	39
MAXISWITCH 101 Keyboard	35
Black 101 Keyboard	39
QUTRONIX 101	15

MONITORS

NANAO F340iw 15" .28	$545
F550i 17"(After Rebate)	855
F550iw (After Rebate)	1065
T560i 17" (After Rebate)	1625
T560iw 17" (After Rebate)	1349
T660i 20" (After Rebate)	2295
F750i 20	1895

REBATES END MARCH 31ST

KFC 17" Flat Screen .26 Digital Cont	780
VIEWSONIC	
21" 1600x1280 .26	1825
20" 1600x1280 .28NI	1575
17" 1280x1024 .28NI	995
17G 17" 1280x1024 .28NI	875
15" 1280x1024 NI	449
15E	385
14E	345
V6E Non-Int 14"	299
V4E 1024x768 VGA 14"	279
EYEQ 1024x768 VGA .28 (Full Screen)	229
SVGA 1024x768 .39	199
SVGA NI 1024x768 .28	240
VGA Mono	109
NEC Monitors	CALL
14" Flat Screen Mono (Amber or Paper White)	95
SONY 1430S Non-Int (1024x768) 14"	599
1730 17"	995
17SEI	1175
2038 20"	2195
MAG MX 15F .28 1280x1024 NI	495
MAG MX 17F .26 1280x1024 NI	925
NOKIA 447B (17")/TCO	999
445m (21") 1600x1280	CALL
445x (21") 1600x1280	CALL

MODEMS & FAXMODEMS

24/96 Fax Modem (Send/Receive)	$45
14400 Fax Modem V.42 Int/Ext	109/155
US Robotics Sportster144/144 Fax/Modem	149

TAPE BACK-UP

COLORADO Tape Back-Up 120 MB	$109
Tape Back-Up 250 MB	155
DC-2120 Tape Cartridge For Above	16
DC-2120 Tape Cartridge Formatted	18
COLORADO Trakker 250 MB	CALL
CONNER 250 MB Tape Back-Up (w/One Tape)	145

DISK DRIVES

All HD Come With Mounting Bracket

TEAC 1.2 MB	$49
3.5" (1.44 MB)w/Frame	42
1.2, 1.44 MB Combo Drive	108
MAXTOR	
7245A 240 MB	229
7345A 340 MB	269
MXT540A 540 MB 8.5ms	425
MXT540S 8.5ms	585
3.5" 1.2 Gigabytes 8.5ms	1245
CONNER	
170 MB 17ms	189
210 MB	199
250 MB 14ms	229
330 MB	265
540 MB	449
IBM 170MB	189
250 MB	229

NETWORK CARDS

Ethernet 16 Bit	$59
10 BT Ethernet 16	59

PRINTERS

Panasonic KXP-1624 132 Column	$349
KXP-2023	219
KXP- KXP-1124i	259

CALL FOR LATEST PRICES!

COMPUTER CASE

14" Baby AT Case W/ 200W P/S	$69
17" Baby AT Case W/200W P/S	89
Vertical Case 250W P/S	119
Medium Vertcal Case 250W P/S	95
Mini Vertical Case 200W P/S (UL Approv.)	69
Mini Vertical Case 200W P/S	49
Sleek Black Case	CALL

POINTING DEVICES

Logitech Trackman Combo	$75
Logitech Trackman Portable	95
Logitech Bus Mouseman	64
Logitech Mouseman Combo	64
First Mouse	37
Mouse (Serial 9 Pin)	9
Microsoft Mouse Bus/Ser (400dpi)	85/75
Microsoft Mouse Ser (OEM)	35
Trackball	24

MISC.

MS DOS 6.2 (w/ System only)	$45
6/10/15/25' printer cable	3.^{50}/6/10/20
Keyboard Extention cable	5
Monitor Extension cable	5
Keyboard Drawer/Under Table	27/18
Computer floor stand	7.^{95}
Power Center	18
Printer switch box (AB/ABCD)	9.^{50}/19
Printer switch box auto (AB/ABCD)	25/49
Power supply 220W	48
Memory Chips (DIPS/SIPPS/SIMMS)	CALL
Math Co-Processors	CALL
Disk Box	7.^{50}
Power Strip	7
Keyboard Rest	3.^{50}

U.P.S.

550 VA	$229

TWIN SOUND SPEAKERS

- Installs into 5.25" Drive Bay
- No Wires, No Batteries, No Adapters, No Mess!
- Frequency Modulated Flashing LED's

$49

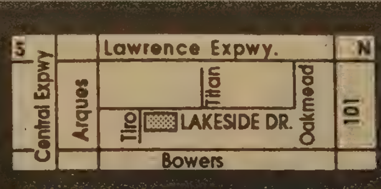
AROMA
Computer Systems

Always Ready to Offer More Assistance

470 LAKESIDE DR. Suite F
SUNNYVALE, CA 94086
Tel: (408) 736-4355
FAX: (408) 736-4356

M-F 9-7
Sat 10-4

Prices Subject To Change w/o Notice
Prices Good At Sunnyvale Store Only
$20 surcharge for PO processing on systems



MODESTO OFFICE:
3430 Tully Rd., Suite #21
Modesto, CA 95350
Tel: (209) 525-8080
FAX: (209) 525-8120

YOUR ONE STOP MULTIMEDIA SOURCE

WE MATCH OR BEAT ANY ADVERTISED CD SOFTWARE PRICE!

CD-ROM

• PANASONIC (MATSUSHITA) 522 380MS ACCESS TIME, 150KB TRANSFER RATE, FREE CADDY	$119
• PANASONIC 562 (MATSUSHITA) 320MS ACCESS TIME, 300KB TRANSFER RATE, 64K BUFFER, W/O CONTROLLER CARD	$185
• NEC 3XI TRIPLE SPEED INTERNAL 190MS ACCESS TIME, 450KB/SEC	$529
• CD-328 (SONY MECHANISM) 350MS ACCESS TIME, 300KB/SEC	$158
• TOSHIBA XM-3401 (SCSI) FASTEST CD-ROM, 200MS ACCESS TIME, 330KB TRANSFER, MULTI-SPIN, FREE CADDY	
INTERNAL DRIVE	$345
EXTERNAL DRIVE (ORIGINAL)	$475
• TRANTOR INTERFACE KIT (T130B)	$55
• AUDIO CABLES	$4.95
• CADDY	$5.50

CD-ROM SOFTWARE TITLES

WITH DRIVE PURCHASE PRICES

ENTERTAINMENT CD-ROM TITLES	
CHESSMASTER 3000 MPC	$15
JONES IN THE FAST LANE MPC	14
KINGS QUEST V MPC	12
LOOM FROM LUCAS FILM	14
MAVIS BEACON TEACHES TYPING MPC	13
MEDIA CLIPS 4 PACK FROM ARIS.	30
SECRET WEAPONS OF LUFTWAFFE	14
SHERLOCK HOLMES, CONS, DET	17
TOTAL BASEBALL	16
WHERE IN THE WORLD IS CARMEN SAN DIEGO	18
CD STORYTIME DOS	14
STELLAR 7 DOS	14
MONKEY ISLAND	15
COMPOSER QUEST MPC	19
BEAUTY & BEAST	12
PETER & WOLF	12
MIXED-UP MOTHER GOOSE	12
DESERT STORM MPC	16
WING COMMANDER & ULT VI DOS	13
SPORTS BEST	14
BATTLE CHESS	14
CD GAME PACK II	15
JETS & PROPS (2 CD)	15
SPACE QUEST IV BY SIERRA	13
DINOSAUR ADVENTURE	17
SPACE ADVENTURE	17
WILLY BEAMISH-THE ADVENTURE	13
WHALE OF TALES	58
NATIONAL PARK DOS	16
ARTHUR TEACHER TROUBLE	18
MARIO IS MISSING/WORLD ATLAS 3.2	15
SLEEPING BEAUTY	12
MANTIS EXPERIMENTAL FIGHTER	12
BEYOND THE WALL OF STARS	16
WHO KILLED SAM RUPERT?	16
INTERACTIVE STORYTIME VOL. 1/2/3	14 EACH
KODAK PHOTO CD MPC	10
SPORTS ILLUSTRATED	19
MICROPROSE COLLECTION DOS/MAC	15
MARIO IS MISSING DELUXE MPC	14
FLY FISHING MPC	15
A CHRISTMAS CAROL	15
DINOSAUR & SPACE ADVENTURE	29
GAMES EXPERT VOL. 1 MPC	11.50
HARRY STORY DISC & COLORING BOOK	19
RETURN TO THE MOON	18
SUPER TOONS DOS	19
QUICK TOONS DOS	19
CD FUN HOUSE	16
RETURN TO ZORK	21
STAR WARS CHESS MPC	19
GOLDILOCKS & THE 3 BEARS	19
CHALLLENGE PACK-GAME PACK IV	22

EDUCATIONAL CD-ROM TITLES	
ANIMALS V1.0 SOFTWARE TOOL	$13
FAMILY DOCTOR	16
GUINNESS DISC OF RECORDS 1993 MPC	15
TIME MAGAZINE ALMANAC 1991	14
U.S. HISTORY	16
WORLD ATLAS MULTIMEDIA MPC 4.0	13
LANGUAGE OF THE WORLD FOR WINDOWS	13
ISLAND DESIGN 2 CD	10
FAMILY CHOICE	15
HALO DESKTOP IMAGING	19
LIBRARY OF THE FUTURE 1ST	38
NAT'L GEOGRAPHIC MAMMALS	19
WORLD VIEW	9
OCEAN DIGITAL IMAGERY VI	18
ELEC LIBRARY OF ART VI	20
ELEC LIBRARY OF ART V2	20
GREAT CITIES VOL I	14
GREAT CITIES VOL 2	14
TIME TABLE OF HISTORY(SCIENCE/INVENTION)	12
TOOLWORKS ENCYCLOPEDIA	33
WILD PLACES	12
MACMILLON DICT. CHILDREN	15
PRESIDENTS	78
TIME TABLE OF HISTORY (BUSINESS & POLITICS)	13
USA WARS: CIVIL WAR	22
USA WARS: KOREA	22
USA WARS: WW II	22
USA WARS: VIET NAM DOS	22
FAMILY EDUCATION COLLECTIONS	16
US ATLAS	13
CIA WORLD FACT BOOK	17
SOUND LIBRARY	10
BRING THE WORLD TO YOUR SENSES	8
TOOL WORKS REFERENCE LIBRARY	14
PLAYING WITH LANGUAGE: ENGLISH	19
PLAYING WITH LANGUAGE: FRENCH	19
PLAYING WITH LANGUAGE: GERMAN	19
PLAYING WITH LANGUAGE: JAPANESE	19
PLAYING WITH LANGUAGE: SPANISH	19
VITAL SIGNS MPC	60
DICTIONARY OF THE LIVING WORLD	23
MIDI MUSIC SHOP	15
MAYO CLINIC FAMILY HEALTH BOOK	15
WIZARD PC	10
CD DELUXE PACK 4 TITLES IN 1	23
SURVEY OF WESTERN ART MPC	20
THE RIGHT COLLEGE	18
KILLER TRUCK CD-MUSIC LIBRARY	17
SFX-300 SOUND EFFECTS	14
ATLAS PACK V3.1/3.01 WORLD/US	14
BARRONS COLLEGE GUIDE	16
ELECTRONIC HOME LIBRARY	18
MULTIMEDIA AUDUBON'S BIRDS	14
MULTIMEDIA AUDUBON'S MAMMALS	14
SHAKESPEARE	10
20TH CENTURY ALMANAC	17
NEWSWEEK INTERACTIVE	18
DR.S BOOK OF HOME REMEDIES MPC	14
20TH CENTURY VIDEO-PEOPLE MPC	17
20TH CENTURY VIDEO-SPORTS MPC	17

CREATIVE

CREATIVE LABS, INC.

MULTIMEDIA PRODUCTS

• SOUND BLASTER PRO DELUXE • STEREO SOUND CARD W/GROLIER MPC ENCYCLOPEDIA	$109
• SOUND BLASTER PRO 16 BASIC	129
• SOUND BLASTER 16 MCD	169
• SOUND BLASTER 16 SCSI	185
• SOUND BLASTER 16 MCD/ASP	199
• SOUND BLASTER 16 SCSI/ASP	215
• SPEAKERS	
• LABTEC CS-150	18
• SPEAKER 25 WATT	39
• SPEAKERS 80 WATT	69

• SOUND CARD SPECIAL (LMT QTY) • LASER WAVE W/SCSI PORT AND VOICE RECOGNITIOON SOFTWARE	$ 99
MEDIA VISION • "MEDIA VISION" MUSIC CARD (OEM) • PRO AUDIO SPECTRUM 16	$125
• "MEDIA VISION" PRO AUDIO STUDIO 16	$189
GRAVIS ULTRA SOUND MUSIC CARD 16 BIT, 32 VOICE, CD QUALITY SOUND	$139

CD-ROM SOFTWARE TITLES

BUNDLE SPECIALS

(WITH AROMA'S MULTIMEDIA PRODUCT PURCHASE ONLY)

• LOTUS® 1-2-3 MULTIMEDIA PC	$58
• COMPTON'S PC ENCYCLOPEDIA	39
• MICROSOFT® BOOKSHELF MPC	43
• MICROSOFT WORK MPC	43
• COMPTON'S INTERACTIVE ENCYCLOPEDIA	59

SPECIAL $9.50 CD-TITLES

- BIBLES & RELIGION
- COMPLETE BOOKSHOP
- DICTIONARIES AND LANGUAGES
- HAM RADIO V3.0
- SHAREWARE OVERLOAD
- TECHNOTOOLS
- WINDOWSWARE
- WORLD TRAVELLER
- CLIPART GOLIATH
- DEATHSTAR ARCADE GAMES
- ENCYCLOPEDIA OF SOUND
- OUR SOLAR SYSTEMS
- SOUND SENSATIONS
- TOO MANY TYPEFONTS
- GARDENING
- COLOSSUS COOKBOOK

DINOSAUR ENCYCLOPEDIA	14
MOZART, MUSIC MPC	19
TRAVEL COMPANION-TOOLWORKS	19
OCEANS BELOW MPC	19
ADVENTURE MPC	19
COMPLETE HOUSE MPC	19
PINACOTHECA PC MULTIMEDIA MPC	16

SHAREWARE	
PC-SIG 11TH ED DOS	$10
PC-SIG 13TH ED DOS	20
SO MUCH SHAREWARE I	9
SO MUCH SHAREWARE II	13
SO MUCH SHAREWARE III	15
THE SHAREWARE CONCEPT	14
WINWARE VOL. 3	18
DR. GAMES DOS	11.50
DR. SHAREWARE DOS	11.50
DR. FUNPAK	11.50
WINDOWS EXPERT VOL. 1	11.50
WIN. PLATINUM VOL. 1 VER. 1.0	11.50
GAMES PLATINUM VOL. VER. 1.0	11.50
DR. MUSIC DOS	11.50
DR. WINDOWS	11.50

BUSINESS CD-ROM TITLES	
AMERICAN BUS. PHONE BOOK	$15
BUSINESS & ECONOMIC ATLAS	22
PUBLISH-IT 2.0 DOS	15
AUTHORWARE STAR FOR WINDOWS	36
MACROMEDIA ACTION FOR WINDOWS	22
Q&A DOS 4.0	24
BUSINESS BACKGROUND	10
MONEY MONEY MONEY	10

CD TITLES FOR MAC	
ANIMALS	$29
ATLAS PACK-US/WORLD	29
COLOR IT	25
GUINESS DISC OF WORLD RECORDS	29
GROLIER ENCYCLOPEDIA	54
LUCAS GAME PAC	25
MAYO CLINIC HEALTH BOOK	29
PUBLISH IT	29
SHERLOCK HOLMES	28

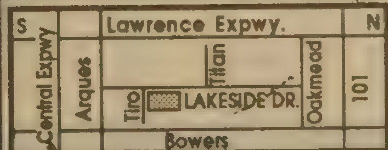
PLUS MANY MORE!!

*CALL FOR MORE INFORMATION ON SOFTWARE TITLE AVAILABILITY & PRICING

AROMA
Tech., Inc.

470 LAKESIDE DR Suite F
SUNNYVALE, CA 94086
Tel (408) 736-4355 M-F 9-7
FAX (408) 736-4356 Sat 10-4
2% surcharge for PO processing on system
Prices Subject To Change w/o Notice
Prices Good At Sunnyvale Store Only

VISA MasterCard DISCOVER



MODESTO OFFICE
3430 Tully Rd., Suite #21
Modesto, CA 95350
Tel (209) 525-8080
FAX (209) 525-8120

AiM FOR THE BEST !

Authorized Peripheral Dealer

Lifetime Labor and 1 Year Parts Warranty **

We Do Custom Systems Configuration & Upgrade

intel® PENTIUM 60/66MHz OR 486 33DX/66DX2 MHz 32-Bit PCI Local Bus

- Intel PENTIUM P5 60/66MHz or Intel 486-33DX/66DX2 MHz
- 32-Bit PCI Local Bus & ISA Architecture MotherBoard w/256KB Cache Intel PCI Chip Set
- 8MB DRAM Simm 70ns 72 pin (up to 128MB)
- Maxtor 340MB 12ms SCSI HD
- Diamond Viper Graphic Card w/2MB VRAM 1280x1024 Max. Resolution 16.8 Million Max. Color Display
- TEAC 1.2MB Floppy Drive
- TEAC 1.44MB Floppy Drive
- KeyTronic 101+ Enhanced Keyboard
- Microsoft Mouse w/ Pad
- PCI SCSI II Controller NCR Chip 2HD/2FD IDE Controller
- 2 Serials, 1 Parallel, & 1 Game Ports
- Full Tower Case w/ 250 Watts Power Supply w/Dual Cooling Fans & CPU Fan

$ 2799 / 2949 / 1939 / 2139
P5/60 P5/66 486DX33 486DX2-66
(Monitor not included)

MultiMedia Value Packages

Mitsumi CD-ROM & Zoltrix SoundPak
*Zoltrix SoundPak (8 Bit Mono Sound Card, Joy Stick, Stereo Speaker)
*Mitsumi Internal CD-ROM 005 350ms 150KB/s & Audio Cable
$ 219 (single Speed); $269 (double Speed)

Toshiba 3401 CD-ROM & Spectrum 16
*Media Vision Spectrum 16
*Toshiba 3401 Internal CD-ROM 200ms, 330KB/s & Audio Cable
*Mini Stereo Speaker
$ 479

Orchid GameWave 32 MultiMedia Package
*Orchid New SoundWave 32 Sound Card DSP-based wavetable sound card
*Orchid Double Speed CD-ROM 320ms, 300KB/s
*CD Title: Gus Gose to Cybertown, Video Movie Guide, Day of Tentacle
$ 419

NEC CDR 500 3Xi & Spectrum 16
*Media Vision Spectrum 16
*NEC CDR 500 3Xi SCSI II Triple speed CD-ROM
*Mini Stereo Speaker & Audio
$ 615

AiM 486-25/33/40/66 MHz 32-Bit VESA Local Bus

*486-25SX/33SX/33DX/40DX/66DX2 MHz
*128KB Cache Memory (up to 256 KB)
*4MB DRAM Simm 70ns (up to 32MB)
*340MB 12ms IDE Hard Drive
*14" SVGA Non-Interlace 1024x768 0.28dp SVGA monitor
*Cirrus Logic Graphic Accelerator VLB W/1MB (up to 2MB) 1280x1024 & 16.8 Million Color
*TEAC 1.2MB Floppy Drive
*TEAC 1.44MB Floppy Drive
*Mitsumi 101 Enhanced Keyboard
*Microsoft Compatible Mouse w/ Pad
*VESA Local Bus 2HD/2FD IDE Controller w/ 2 Serials, 1 Parallel, & 1 Game Ports
*Med Tower Case w/230 Watts Power Supply

Pentium Overdrive Upgradeable

$1139/1179/1339/1319/1539
SX25 SX33 DX33 DX40 DX2-66

intel® 486-33/50/66 EISA 32-Bit EISA VESA Local

*Intel 486-33DX / 50DX / 66DX2
*AIR EISA VESA Local Bus w/256KB Cache 3 VLB Slot Support Bus Mastering
*8MB DRAM 72 pin Simm 70ns (up to 128MB)
*Diamond Stealth VLB 24 w/ 1MB S3 Chip 32-Bit VESA Local Bus 1280x1024 & 16.8 Million Color
*TEAC 1.2MB Floppy Drive
*TEAC 1.44MB Floppy Drive
*KeyTronic 101+ Enhanced Keyboard
*Microsoft Compatible Mouse w/ Pad
*Maxtor 345MB 15ms SCSI Hard Drive
*UltraStor 34F VESA Local Bus SCSI II Bus Mastering Controller
*Full Tower Case w/250 Watts Power Supply, LED
*Dual Cooling Fans for 50MHz & 66MHz

Pentium Overdrive Upgradeable

$1969 / 2099 / 2169
DX33 DX50 DX2-66
(Monitor not included)

IBM 486SLC2 50/66/75 32-Bit VESA Local Bus 64KB/256KB 250MB HD

*IBM 486SLC2 50/66/75BL3 MHz
*ALARIS 486SLC2/BL3 VLB Motherboard w/64KB Cache Memory (up to 128 KB) OR W/256KB Cache Memory(for 75BL3) & Math. (floating point) Coprocessor Manufactured by IBM in the USA
*4MB DRAM Simm 70ns (up to 16MB)
*250MB 12ms IDE Hard Drive
*14" 1024x768 0.28dp SVGA Non-interlace Color monitor
*Cirrus Logic VLB Graphic Accelerator Card w/1MB & 16M Color
*Mitsumi 1.2MB & 1.44MB Floppy Drive
*Mitsumi 101 Enhanced Keyboard
*Microsoft Compatible Mouse w/Pad
*VESA Local Bus 2HD/2FD IDE Controller w/2 Serials, 1 Parallel, 1 Game Ports
*Mini Tower Case w/230 Watts Power Supply

$ 1159 / 1199 / 1549
SLC2/50 SLC2/66 BL3/75

486- 25 / 33 / 40 / 66 ISA 128KB Cache 212MB

*486-25SX/33SX/33DX/40DX/66DX2
*ISA Motherboard 128KB Cache (up to 256 KB)
*4MB DRAM Simm 70ns (up to 32MB)
*212 MB 13ms IDE Hard Drive
*14" 1024x768 0.28dp SVGA monitor
*Trident 8900CL SVGA 1024X786 Graphic Card w/1MB
*Mitsumi 1.2MB Floppy Drive
*Mitsumi 1.44MB Floppy Drive
*Mitsumi 101 Enhanced Keyboard
*Microsoft Compatible Mouse w/ Pad
*2HD/2FD IDE Controller w/2 Serials, 1 Parallel, 1 Game Ports
*Mini TowerCase w/230 Watts Power Supply

$ 979 /1019 /1169 /1159 /1369
SX25 SX33 DX33 DX50 DX2-66

Cyrix 486DLC 40 AMD386-33SX/40DX SVGA 170MB HD

*Cyrix/Ti 486DLC 40 or AMD386-33SX/40DX
*128KB Cache Memory (For Cyrix/Ti 486DLC & AMD 386DX/40 only)
*4MB DRAM SIMM (For Cyrix 486DLC & AMD 386DX/40 only) OR 2MB DRAM SIMM (For 386/33SX)
*170 MB IDE Hard Drive
*14" 1024x768 0.39dp SVGA Color Monitor
*Trident 9000 1024x768 w/512KB SVGA
*Mitsumi 1.2MB OR 1.44MB Floppy Drive
*Mitsumi 101 Enhanced Keyboard
*Microsoft Compatible Mouse w/ Pad
*2HD/2FD IDE Controller w/ 2 Serials, 1 Parallel, & 1 Game Port
*Mini Tower Case w/ 230 Watts Power Supply

$ 719 / 839 / 865
SX33 DX40 486DLC40

Miscellaneous

Motherboards (386, 486, Pentium, EISA, Local Bus)	Call
CPUs (Intel/AMD/Cyrix/TI 386, 486 ,Pentium)	Call
MathCoprocessor 387/487 (Intel/AMD/ULSI/Cyrix)	Call
SIMM Memory Chips (256KB,1MB,4MB,16MB,32MB)	Call
SIPP, DIP Memory Chips (256KB,1MB,4MB,16MB,72pin)	Call
Hard Drives (IDE, SCSI): Quantum, Conner, Maxtor, Seagate, Western Digital, Teac, Toshiba, Fujitsu,	Call
VESA IDE I/O 32-Bit Controller 2HD, 2FD, 2S, 1P, 1G	$28
Logitech Serial, Bus MouseMan, & TrackMan 2	$49*$65/$75
Logitech MouseMan Cordless	$89
Logitech Scanman 256 w/OCR 400DPI	$209
Microsoft serial mouse	$35*/$69
KeyTronic 101+ enhanced Keyboard	$35
Maxiswitch 124 Programmable keyboard	$59
DSI 14.4K/14.4K FaxModemWinFax+DosFaxIn/Ext	$135/165
Zoltrix 2.4/9.6K Fax Modem w/MNP5, BitFax for Win	$39
TEAC 1.44MB/1.2MB/Combo Floppy Drive	$42/53/$109
PRINTERS (Apple,HP,Panasonic,Citizen,Epson,QMS)	Call
Printer Memory Upgrade (HP,Panasonic, etc)	Call
Creative LabsDiscovery CD Kit(8-Bit/16-Bit)	$349/419
Edutainment CD Upgrade Kit (8-Bit/16-Bit)	$439/489
SoundBlaster 16 Basic /SoundBlaster Pro Deluxe	$135/109
SoundBlaster 16 ASP-SCSI-2/MCD	$209/$165
Media Vision FUSION CD 16 Mutlimedia Double SCSI	$489
Pro 16 Multimedia System	$879
Pro Audio Spertrum 16 / Pro Audio Studio 16	$149/199
Logitech Soundman 16	$159
Mitsumi Internal CD-ROM 350ms, 150KB/s	$155
Mitsumi Internal CD-ROM Double Speed 280ms 300KB/s	$199
Panasonic Internal CD-ROM Double Sp. 320ms 300KB/s	$199
NEC CDR 84-1 Internal CD-ROM SCSI II 280ms 300K	$469
TEAC CD-50 Internal CD-ROM 265ms 335KB	$389
NEC 3Xi Internal CD-ROM SCSI II 195ms 450KB	$485
Toshiba 3401 Internal CD-ROM SCSI II 200ms 330KB	$355
Coloroda Tape Backup 120MB/250MB	$109/169
Coloroda Trakker External Tape Backup 120/250MB	$299/339
Conner Internal 250MB Tape Backup w/1 Tape	$149
UltraStor 34F VLB Controller (SCSIBusMastering)	$259
Promise VLB IDE Cache Controller 4030	$130
Wonder System;IDE 4HD/2HD Controller	$25
SCSI IDE 4FD CDROM Controller	$89
VLB IDE 2HD/4FD 2S 1P Controller 5 IRQ	$35
VLB IDE 2HD/2FD 2S 1P Controller w/16550	$55
IDE 4HD/4FD COEXIST SCSI MFM RLL ESDI	$59

.... *And Much More* ....

Monitors

14" SVGA 1024 .28 60Hz Int/NI	$239/$259
14" SVGA Color Monitor 1024 .28 NI 72Hz	$285
15" SVGA Color Ana/Digi. 1280 .28 NI	$349/369
17" KFC SVGA Ana/Digi 1280 .26 NI	$699/739
Samsung SynM. 15C .28/17" 5+ .26	$439/879
ViewSonic 4E/6E(NI)/14E 1024 .28	$265/289/329
ViewSonic 15E/15 15"	$389/449
ViewSonic 17G/17 17" .28 NI 76Hz Flat	$829/959
ViewSonic 20/21 1600x1280 Flat	$1599/1879
SONY 14" 1430/17" 1730 .25 72Hz	$499/959
SONY 17" SE1 .25/20" 2038 .30	$1199/2199
NEC 15" 3V/3FGe/4FGe Flat 60/72	$529/589/689
NEC 17" 5FGe 1024/5FGp 1280 Flat	$1099/$1349
NEC 21" 6FG/5FGp 1280x1024 Flat	$2429/2529
MAG 15" 15F/17" 17 1280x1024.28	$499/$879
NANAO17"F550i/F550iW	$969/1125

.... *And Much More* ....

Graphic Cards

Trident 9000 1024x768 w/512KB	$39
Trident 8900C 1024x768 w/1MB	$65
REALTEK 1024x768 w/1MB & Hi Color	$55
Paradise Graphic Accelerator w/1MB&Hi-C	$75
Orchid Fahrenheit VESA VLB w/1MB	$149
Orchid Fahrenheit VESA VLB w/VA 1MB	$175
Orchid Fahrenheit Plus w/1MB & Hi-Color	$149
Orchid Celcius VLB w/2MB & True Color	$279
Diamond Stealth 24VLB w/1MB True-Colo	$155
Diamond Stealth Pro VLB w/1MB VRAM	$249
Diamond Viper VLB w/2MB & True-Color	$389
Diamond Viper PCI w/2MB & True-Color	$429
ATI Ultra Graphic Pro w/2MB VRAM VLB	$389
Genoa/Cirrus 8500VL 24-Bit Acc.	$99/$85
ATI Ultra Graphic Pro w/2MB(MCA,EISA)	$489
ATI Ultra Graphic Pro w/2MB VRAM ISA	$479
SummaSketch III 12x12 4 or 16 Buttons	$299

.... *And Much More* ....

Softwares

Microsoft DOS 6.2 Upgrade (NEW)	$49
Microsoft DOS 6.2 Full Version	$40*
IBM OS/2 Version 2.1	$79
Microsoft Windows 3.1	$48*
Microsoft Excel 4.0 for Windows	$125
Microsoft Entertainment Pack 1-4	$30@
Microsoft Flight Simulator 5.0	$45
Microsoft Word 6.0 for Windows	$125
After Dark for Windows	$27
Lotus Improv for Windows	$99
WordPerfect 6.0 for Windows (NEW!)	$135
BitFax for Windows w/OCR & BitCom	$69
CD-ROM Software Package (5 CDs)	$85
FrameMaker 4.0 for Windows	$309
Norton Utilities 7.0	$109
QEMM 386 7.0	$59

.... *And Much More* ....

AiM *Computers*

1741-C Clayton Road, Concord, CA 94520
TEL: (510) 687-2822
FAX: (510) 687-5276
Hours: Mon-Sat 10-6:30

Ask For Our FREE *Prodigy* Offer

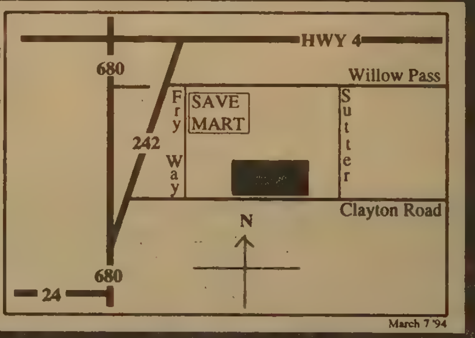
VISA
MasterCard

AiM Quality Guarantee

*** Lifetime Labor & 1 Year Parts**
*** 72 Hours Burn-In**

Prices subject to change without notice
Not responsible for typographical errors
Trademarks are registered by the respective companies
Contents subject to change without notice
** Limited warranty, see store for detail
* w/ System purchase

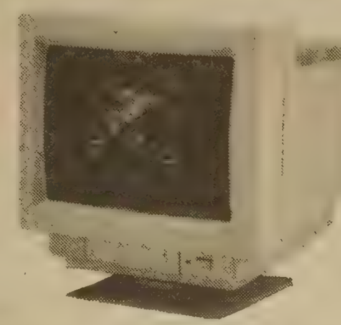
Extended Warranty Service Available
On-Site Service Repair Available
Delivery & Setup Available
Financing & Leasing Available



March 7 '94

PIONEX Non-Interlaced SVGA Color Monitor

PIONEX Introduces A New Modular Designed Technology in Their Monitors With Larger Image Area Than Other Monitors.



PX1528NI/PX1728NI
- 15"/17" Flat Square Display
- SVGA Non-Interlaced Color
- 15 Pre-set and 5 User Programmable Modes
- Front Adjustable Panel
- 1280 x 1024 Resolution
- .28mm Dot Pitch

PX1428NI
- 14" Monitor
- SVGA Non-Interlaced
- 1024x768 Resolution
- .28mm Dot Pitch

Call for Dealer Pricing & More Information

LOCAL BUS COMPONENTS

Our VESA Local Bus increases performance not the price!

- **MOTHERBOARD**
  - *3 Local Bus Slots w/Bus Master Mode
  - *Pentium Overdrive Upgradable
  - *238 PGA Pin Socket
  - *Clock Generate
  - *ZIF Socket Available
- **VL IDE/IO CONTROLLER CARD**
  w/2 Serial, 1 Parallel, & 1 Game Ports
- **CL VL BUS WINDOWS ACCELERATOR**
  1 MB VGA Card Up To 1280 x 1024 Resolution

CALL FOR PRICING

MULTI-MEDIA SYSTEM 486DX-33 MHz SYSTEM $CALL

INCLUDES:

INCLUDES:
CD-ROM,
SOUND CARD,
AND 4 CD's

- √ INTEL 33 MHZ 80486DX MICRO-PROCESSOR
- √ 4 MB RAM EXP. TO 32 MB ON THE BOARD
- √ 1.2 MB OR 1.44 MB FLOPPY DRIVE
- √ 340 MB IDE HARD DRIVE
- √ SONY CD-ROM W/375ms ACCESS TIME
- √ SOUND CARD W/SOFTWARE
- √ SET OF EXTERNAL SPEAKERS
- √ 4 CD'S INCLUDING: COMPTON'S INTERACTIVE ENCYCLOPEDIA, BRITANNICA'S FAMILY CHOICE, BRITANNICA'S HOME OFFICE SELECT AND SOFTWARE JUKE BOX
- √ 15" SVGA COLOR MONITOR .28mm
- √ SVGA 1MB ADAPTER
- √ SIX 16-BIT SLOTS AND ONE 8-BIT EXPANSION SLOT
- √ 101-KEY KEYBOARD
- √ MS DOS 6.0
- √ WINDOWS 3.1 WITH MICROSOFT COMPATIBLE MOUSE
- √ 2 SERIAL, 1 PARALLEL AND 1 GAME PORTS

CHINON
FLOPPY DRIVES
"THE QUALITY AND PRICES BEAT TEAC!"

★★BEST PRICE ANYWHERE★★

MICRO DISTRIBUTION CENTER

MICRO DISTRIBUTION CENTER

48879 KATO RD., FREMONT, CA 94539
(510) 657-8079 FAX (510) 657-9511

ART COMPUTER TECH INC.

424 S.MAIN STREET., MILPITAS, CA
Tel. (408) 946-7852 * Fax (408) 946-7892

Make us your last stop,We offer the best price.

Be Smart! Join our satisfied customers

AMD, ADAPTEC, CIRRUS LOGIC, UC DAVIS,CONDUCTUS, ASTEC, ELANTEC, SEAGATE, STANFORD UNIVERSITY, UC BERKELEY, LAWRENCE LIVERMORE LAB,ANALOG DEVICES,IBM, INTEL, LSI LOGIC, ACUSON, MADERA CITY POLICE DEPT, NASA, ALLIED ENGINEER, TESTERION, ACSYS, LOGITECH, FRANK & RIVERMAN CPA and many more...

SYSTEM	MainBoard +CPU	Basic System
Pentium P5-66/256K PCI	$1383	$1626(*)
Pentium P5-60/256K PCI	$1180	$1423(*)
Pentium P5-66/512K VLB	$1279	$1522(*)
Pentium P5-60/512K VLB	$1076	$1319(*)
486DX2-66/256K PCI	$641	$885(*)
486DX-33/256K PCI	$462	$700(*)
486DX2-66/128K ISA/VLB Intel	$510	$643
486DX-50/128K ISA/VLB Intel	$464	$602
486DX-33/128K ISA/VLB Intel	$323	$456
486DX2-66/128K ISA/VLB AMD	$446	$579
486DX-40/128K ISA/VLB AMD	$300	$433
486SLC2-66/64K IBM VLB	$252	$385
486SLC2-50/64K IBM VLB	$210	$343
486DX2-66/256K Genoa VLB	$563	$697
486DX-50/256K Genoa VLB	$528	$661
486DX-33/256K Genoa VLB	$378	$511
486DX2-66/256K NICE EISA VESA	$655	$787
486DX-50/256K NICE EISA VESA	$619	$751
486DX-33/256K NICE EISA VESA	$471	$603
486SX-25C ISA	$135	$280
386DX-40/128K ISA	$95	$231

SPECIAL COMPLETE SYSTEM

- * Motherboard w/CPU+4MB RAM 70ns
- * 1.2 and 1.44MB FDD
- * IDE 2FD/2HD Controller w/ I/O 2S/1P/1G
- * 120MB Hard Drive
- * 1024x768 .28DP 14" SVGA Monitor
- * 512K SVGA Card
- * 101 Enhanced Keyboard
- * Enhanced Case w/230 Watt Power Supply
- * Microsoft Compatible Mouse+ Mouse Pad

Pentium P5-66/256K PCI	$2092
Pentium P5-60/256K PCI	1889
Pentium P5-66/512K VLB	1988
Pentium P5-60/512K VLB	1785
486 DX2-66/256K PCI	1352
486 DX-33/256K PCI	1167
486 DX2-66/128K ISA/VLB Intel	1214
486 DX-50/128K ISA/VLB Intel	1180
486 DX-33/128K ISA/VLB Intel	1030
486 DX2-66/128K ISA/VLB AMD	1151
486 DX-40/128K ISA/VLB AMD	1006
486 SLC2-66/64K IBM VLB	957
486 SLC2-50/64K IBM VLB	917
486 DX2-66/256K Genoa VLB	1268
486 DX-50/256K Genoa VLB	1232
486 DX-33/256K Genoa VLB	1083
486 DX2-66/256K NICE EISA VESA	1363
486 DX-50/256K NICE EISA VESA	1329
486 DX-33/256K NICE EISA VESA	1174
486 SX-25C ISA	847
386 40/128K ISA	800

BEST BUY SYSTEM

486 DX2-66 /256K Green VLB MB w/Intel CPU
+8MB RAM
+1.2&1.4 FD
+340MB HD
+SPIDER Plus VLB 1MB
+Viewsonic 6E monitor
+IDE VLB+medium case
+Focus 2001 keyboard
+Microsoft Mouse&Pad

$1619

OPTIONS	ADD
-Non-Int Monitor	$10
-Viewsonic 6E Monitor	45
-KFC 15" Non-Int	170
-SPIDER BlackWidow 1M	150
-SPIDER 32VLB w/1MB	50
-Trident 1MB	20
-250 MB Hard Drive	45
-340 MB Hard Drive	60
-540 MB Hard Drive	270
-IDE VESA Localbus	20
-Medium case	25
-Full Tower	80
-Logitech Mouse	25
-Microsoft mouse	25
-486 SLC MathCo	30

BASIC SYSTEM Includes: Motherboard &CPU, 1MB RAM, 1:1 2HD/2FD controller, w/ 1P/2S/1G, 1.2 or 1.44 MB FD, enhanced case w/Power supply, 101 Keyboard.

HARD DRIVES	
130mb/15ms (IDE) Maxtor 7120AT	175
245mb/15ms (IDE) Maxtor	225
250mb/14ms (IDE) Conner	220
270mb/12ms (IDE) Quantum	235
340mb/13ms (IDE)	260
420mb/12ms (IDE) Conner	310
540mb/12ms (IDE) Quantum	455
540mb/11ms (IDE) Western Digital	425
520mb/10ms (SCSI) Fujitsu	485
1.0 GB -10ms (SCSI) Fujitsu	840
1.2 GB - 13ms (SCCI) Fujitsu	870
2.1 GB - 13ms (SCCI)	1720

MULTIMEDIA	
Creative Lab Soundblaster Pro	$100
Creative Lab Soundblaster Pro Deluxe	115
Creative Lab SoundBlaster Pro 16 MCD	167
Creative Lab SoundBlaster 16 SCSI-II ASP	220
MEDIAVISION ProAudio Spectrum 16	125
Mitac16bit sound card + speakers + 12games	120
Mitsumi double speed CD ROM (215ms)	180
SONY CD ROM 31A (490ms) w/card	145
NEC double speed CDR-84	380
NEC triple speed 450KB/SEC (190ms)	480
TOSHIBA CD ROM 3401 (200ms)	335
Texel CD ROM DM 3028N	320
Beethoven Mutimedia Package: Sony double speed CD ROM+16bit sound card+ stereo speaker	405
Power Kit II: Panasonic single speed CDROM+SoundBlaster Pro+5 CD Titles	295
Power Kit III: Panasonic souble speed CDROM +SoundBlaster Pro 16+7 CD Titles	405

KEYBOARDS	
101 Enhanced keyboard	$18
Maxiswitch	28
Keytronics	30
Focus 2001/9000	36/60
Focus 7000	49
Omnikey 101/102/Ultra	75/75/90

[*] come with 4MB-72Pin SIMM

VIDEO CARDS	
Trident VGA-512/1MB (1024x768,16bit)	$38/58
Diamond SpeedStar Pro ISA w/1MB	110
Diamond SpeedStar Pro VLB w/1MB	110
Diamond Stealth 24VESA Local bus w/1MB	150
Diamond Stealth Pro VRAM w/1MB/2MB	240/300
Diamond Viper VESA Localbus w/2MB	350
Diamond Viper PCI w/2MB	380
Diamond Stealth PCI	235
SPiDER 32VESA Local Bus w/1MB/2MB	93/143
SPiDER 32VLB Plus w/1MB/2MB	100/150
SPiDER BlackWidow VLB w/1MB/2MB	170/230
SPiDER BlackWidow Engine ISA 1M/2M	160/220
SPIDER BlackWidow Plus w/1MB/2MB	235/295
Orchid Farenheit 1280Plus w/1MB	145
Orchid Farenheit Localbus w/1MB	145
ATI Graphic Ultra Pro ISA w/2MB	300
ATI Graphic Ultra Pro VLB w/2MB	300
ATI Plus VLB 2MB DRAM	228
ATI Ultra Pro EISA w/2MB	340
ATI Graphic PCI w/2MB	350

MONITORS	
Nanao F550i 17"	$930
Nanao F550iw 17"/T560i 17"	1035/1555
Nanao F760iw 21"/T660i 21"	1950/2200
NEC 3FGE/ 4FGE	574/674
NEC 5FGE/5FGP	1,040/1,255
NEC 6FGP/3V	2,300/520
MAG 15F-MPR (1280x1024,0.28)	485
MAG 17FG (1280x1024,0.26)	845
MAG LX 1564 15"	380
SONY CPD 1430s 14"	510
SONY CPD 1730/17SEI 17"	970/1,110
SONY GDP 2036s 20"/2038 20"	1900/2130
HITACHI CM-2095 20"/2087 20"	1215/1520
HITACHI CM-2187 21"	1855
HITACHI CM-1588MV	485
Viewsonic 4E/6E	264/280
Viewsonic 15E/15	375/435
Viewsonic 17/17G	825/800
Viewsonic 20/21	1510/1720
KFC 15"/KFC 17"	400/700
Mini micro intrl (1024x768) monitor 0.28	235
Mini micro Non-interlaced Monitor 0.28	250

CONTROLLER CARDS	
IDE w/IO	$15
IO with 2s/1p/1g	12
VESA Localbus IDE	32
PCI IDE/PCI SCSI-2 Controller	50/100
Promise IDE DC 200	98
Promise IDE DC2040VL/4030VL	165/125
Adaptec SCSI 1522	80
Adaptect SCSI 1542CF/1542CF w/Kit	175/250
Adaptec SCSI 2742T/2742	320/295
Adaptect EISA SCSI 2742T w/Kit	350
Adaptect SCSI 2842 VL w/Kit	285
Ultra Stor SCSI 14F/24F EISA	190/315
Ultra Stor SCSI 34F VLB	250

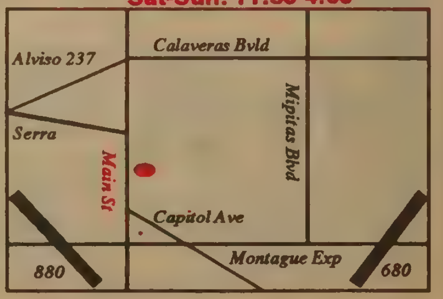
PRINTERS	
Panasonic KX-P1123/2023	$165/195
Panasonic KX-P1124I/1624	235/345
Panasonic KX-P2180/2123	155/215
Panasonic KX-P2124/2624	315/375
HP DeskJet 500/500C	295/395
HP DeskJet 550C	490
HP DeskJet 1200C/1200C Postscript	1420/3030
HP 4P/HP IV/4MP	965/1350/1360
HP 4ML/4L/4M	970/665/1900

MISCELLANEOUS	
Fax Modem (9600 F, 2400 M)/Window	42
Fax Modem (14400 F, 14400 M)	120
US Robotics Modem 9600/14,400	144/148
US Robotics Fax/Modem 14,400	168
3-Button mouse	10
Microsoft mouse serial/bus	36/45
Logitech Mouseman serial (4000dpi)	35
Logitech Mouseman Bus (4000dpi)	45
Q-tronic Trackball mouse	29
Colorado Tape backup DJ-10 120M	98
Colorado Tape backup DJ-20 250M	158
Colorado Trakker 120MB	230
Colorado Trakker 250MB	330
Baby AT/Mini Tower case w/230W PS	45
Medium Tower case 2/230W PS	72
Full Tower case w/230W PS	85
Dual Floppy Drive 1.2+1.4MB	110
TEAC 1.2FD/1.44FD	38/45

NETWORK CARDS	
SMC plus Elite 8 bit coax	$110
SMC plus Elite 16 bit coax	120
SMC Elite 16bit combo	140
8bit Ethernet	40
16 bit Ethernet 10Base-T	45
16 bit Ethernet combo	50
3COM 8bit coax	170
3COM 16bit Etherlink II coax	160

* Prices & availability subject to change w/o notice.
* We accept VISA&Master Card.
* Not respondsible for typos.
* Prices based on cash prices.
*Government P.O accept.
*Company term on credit approval.

424 S Main Street
Milpitas, CA 95035.
Tel. (408) 946 -7852
Fax.(408) 946-7892
Bus Hrs: Mon-Fri : 9:30-6:00
Sat-Sun: 11:30-4:00



YOUR ONE STOP SHOP IN SOUTH SAN FRANCISCO

Panasonic Office Automation OA
Novell Authorized Reseller
Authorized Service Center

VOTED 10 BEST OF THE BAY AREA
10

AMI SUPER VOYAGER 486DX2 66MHZ VLB

Windows & CAD Workstation
Intel 486DX2-66MHz, 256K RAM Cache
Full Size Tower with 250W Power Supply
AMI Super Voyager VLB System Board
8MB RAM 70ns Installed, Exp. to 64MB
Teac 1.2MB and 1.44MB Floppy Drive
Maxtor LXT7345 345MB IDE Hard Disk
Build-In VESA Local Bus IDE Host Adapter
2 High Speed Serial & 1 Parallel Ports
Orchid Fahrenheit 1280 VLB Adapter
Nanao F340iW Power Saving 76Hz Monitor
Keytronic 101 Keys Enhanced Keyboard
Microsoft Dos & Windows w/ Disks and Manuals
Microsoft Version II 400dpi Serial Mouse

$2,750

EISA VESA LOCAL BUS SYSTEM, PLEASE CALL

MONTHLY SPECIALS

LIMIT ONE PER CUSTOMER

Colorado Jumbo Internal 250MB Tape	159
SummaSketch III 12x12 4 or 16 Buttons Digitizer	269
NEC Internal TripleSpin 450K/sec CD-ROM	405
Adaptec 2842VL FAST SCSI II Host Adapter	299
Adaptec 2742T EISA SCSI 32Bit Adapter	299
AMI Fast Disk ESIA Cacheing SCSI Host Adapter	399
Teac 1.2MB/1.44MB Floppy Disk Drive	45/35
14" Addonics 72Hz 1024x768 NI SVGA Monitor	295
15" Nanao F340iw 1024x768 .28mm NI 76Hz Monitor	599
Intel SatisFAXtion Model 400 14.4K Fax/Modem	285
Pro Audio Specturm 16 Sound Card with SCSI II	129
Pro Audio Studio 16 Sound Card with SCSI II	179
Microsoft Version II/Logitech 400dpi Serial Mouse	35

PLEASE CALL FOR ITEMS NOT LISTED

PENTIUM 60MHZ VL GREEN MACHINE

Intel Pentium-60MHz VESA Local Bus
Buffer-enhanced VESA & Power Saving Design
3 VLB Slots & Up to 128MB RAM on Board
16MB RAM & 256K 64Bit Cache Installed
Full Size Tower Case with 300 Watt Power Supply
Adaptec 2842 VESA Local Bus SCSI-II Host Adapter
Teac 1.2MB and 1.44MB Floppy Drive
Quantum 1.02GB 8ms Fast SCSI-II Hard Disk
2 Serial / 1 Parallel / 1 Game Ports
ATI Graphic Ultra Pro 2MB VLB Adapter
Nanao F550i 17" .28mm Super VGA Monitor
Keytronic 101 Keys Enhanced Keyboard
Microsoft DOS & Windows w/ Disks and Manuals
Microsoft Version II 400dpi Serial Mouse

$5,150

66MHZ PENTIUM OR CUSTOMIZED SYSTEM, PLEASE CALL

SYSTEM BOARDS

All system board come with CPU & no RAM

AIR 486DX-33/ 50MHz 3 VLB Slot 256K Cache	CALL
AMI Enterprise III/IV 486DX2 66 256K EISA VLB	CALL
Diamond FastBus 486DX2 66MHz 256K Cache	CALL
Orchid SuperBoard 486 VESA Local Bus 256K	CALL
Pentium 60/66MHz VLB System Board	CALL
NICE US Made 486DX Mini EISA VLB 256K	CALL
NICE US Made 486DX-33MHz ISA VLB 256K	465
Comet 486DX 33MHz VLB 128K with ZIF Socket	440
Comet 486DX 33MHz ISA 128K Cache	420
Comet 386 40MHz 128K RAM Cache	170

HARD DRIVES

Conner CP30104 120MB 17ms	179
Conner CP30174E 170MB 17ms	209
Conner CP30204 212MB 256K Cache 12ms	239
Conner CP30304 340MB 12ms	309
Maxtor LXT7213A 212MB 15ms	229
Maxtor MXT7245A 245MB IDE 15ms	239
Maxtor LXT7345A 340MB 13ms	309
Maxtor MXT540A 540MB 8.5ms 256K Hard Disk	459
Fujitsu Hard Drives: 5 Year Warranty	
Fujitsu M2624T 520MB IDE 3.5" 11ms	469
Fujitsu M2624FA 520MB SCSI II 3.5" 11ms	479
Fujitsu M2694ESA 1.02GB SCSI II 3.5" 10ms	859
Quantum ELS170AT 170MB IDE Hard Disk	209
Quantum LPS240AT 244MB IDE 256K Cache	249
Quantum LPS270AT 270MB IDE 128K Cache	249
Quantum LPS540AT 540MB IDE 12ms 128K	459
Seagate Barracuda 1.67GB 8ms 72000RPM drive	1549

FLOPPY DRIVES

Teac 1.2MB/ 1.44MB Floppy Disk	45/35
Teac Dual 1.2 & 1.44MB Floppy Disk	130

POWER SUPPLIES

200W XT Size Power Supply	59
250W AT Size Power Supply for Desktop	59
230W PS2 Size Power Supply	59
250W AT Size Power Supply for Tower	69
300W PC Power Cooling for Full Tower	185

SCANNERS

Umax UC630 600dpi 24bit Flatbed	850

MONITORS

14" MicroView Amber Monochrome Monitor	105
14" Samsung Paper White VGA Mono Monitor	135
14" Addonics SVGA 1024x768 .28mm Monitor	260
14" Addonics SVGA 1024x768 .28mm 72Hz Monitor	295
14" ViewSonic 6E SVGA 1024x768 NI Monitor	309
15" MAG MX15F 1280X768 .28mm SVGA Monitor	499
15" Nanao F340iw 1024x768 .28mm NI at 76Hz Monitor	599
15" NEC 4FGe 1024x768 .28mm 76Hz NI Monitor	695
17" Sony 1730 1024x768 70Hz .25mm NI Monitor	975
17" Nanao F550i 1280x1024 .28mm 75Hz Monitor	975
17" ViewSonic 17 1280x768 .28mm NI Monitor	1050
17" Nanao F550iw 1280x768 .28mm NI Energy Sav.	1100
17" NEC 5FGe 1024x768 76Hz .28mm Monitor	1120
21" Nanao F760iw 1280x768 76Hz .30mm Monitor	1995
21" NEC 6FGp 1280x768 .28mm dpi Monitor	2450
14" to 21" Nokia Monitor Line	CALL

MULTIMEDIA

Media Vision Fusion CD 16 Multimedia system	459
Pro Audio Spectrum 16 Snd Card w/SCSI Interface	129
Sound Blstr Pro 16 MCD w/ASP & CD-ROM Interface	209
NEC Internal TripleSpin 450K/sec. CD-ROM	425
Toshiba CD-ROM 256K 200ms 330KB/sec Int./Ext.	359/459
Future Domain 8 bit CD-ROM Adapter w/Driver	59

MODEMS

Intel 144i Internal 14.4K V.42bis Fax/Modem	145
Intel SatisFAXtion Model 200 14.4K/2400 Fax/Modem	185
Intel SatisFAXtion Model 300 9600/14.4K Fax/Modem	235
Intel SatisFAXtion Model 400 14.4K Fax/Modem	285
Intel SatisFAXtion Model 400e 9600/14.4K Ext. Modem	350
Intel 14.4EX External Modem with 16 Processor	350
GVC 14.400 V.32bis V.42bis Int./ Ext Fax/Modem	155/175
GVC 96/2400 Baud Internal Fax/Modem	70
Zotrix 96/2400 Baud Int, Fax/Modem, DOS/Win SW	79
Complete PC 96/24 Fax/Modem for Windows	89
US Robotics Courier and Sportster Modems	CALL

NETWORKING

3 Com / Intel / SMC and other Ethernet products	CALL
Other Ethernet & Arcnet Adapters	CALL
Artisoft Lantastic Products	CALL
Novell Netware Products & Network Adapters	CALL

VIDEO ADAPTERS

ATI Ultra Plus 2MB DRAM & 400dpi Mouse	279
ATI Ultra Pro ISA 2MB VRAM Video Adapter	339
ATI Ultra Pro VLB 2MB VRAM Video Adapter	339
ATI Ultra Pro EISA 2MB VRAM Video Adapter	389
ATI Ultra Pro PCI 2MB VRAM Video Adapter	379
Diamond SpeedStar Pro ISA/ VLB 1MB RAM	129/139
Diamond Stealth 24 VLB 1MB RAM Accelerator	175
Diamond Stealth Pro VLB 1MB/ 2MB Accelerator	255/355
Diamond Viper VLB 2MB VRAM Video Adapter	369
Orchid Fahrenheit 1280 Plus ISA w/1MB RAM	159
Orchid Fahrenheit 1280 VLB 1MB Video Adapter	159
Accumos Windows Accelerator 256/512K	45/65
Trident 8900 Chip Set 1MB SVGA Adapter	70
#9 GXi Video Adapter Lever 25 to 29TC	CALL
#9GXE Level 10/11/12 Graphics for Windows	CALL

INPUT DEVICES

Keytronic / Mitsumi 101 Keys Enhanced Keyboard	45/40
Northgate 101 or 102 / Ultra Enhanced Keyboard	79/89
Logitech 400dpi Serial/Bus Mouse Man	35/65
Microsoft 400dpi Serial/Bus Mouse	35/85
SummaSketch III 12x12 4 or 16 Buttons Digitizer	269

CONTROLLERS & ADAPTERS

2 Serial, 1 Parallel, 1 Game Ports Card	18
IDE with 2 Serial, 1 Parallel, 1 Game Ports	30
STB 2 16550 Serial & 1 Bi-Directional Parallel	65
Kouwell 2 16550 Serial 1 Parallel, 1 Game Ports	55
Kouwell IDE/FD 2 16550 Serial, 1 Parallel & 1 Game	75
Kouwell VLB IDE/FD & 2 16550 Serial, 1 Parallel	95
UltraStor 34F VESA Local Bus SCSI Bus Master	260
Adaptec 1522/ 1542C Kit SCSI Host Adapter	155/255
Adaptec 2742T EISA SCSI 32Bit Adapter Kit	375
Adaptec 2842VL VESA RISE SCSI Host Adapter	299
BusLogic SCSI Host Adapter	CALL
Promise IDE W/ 0Mb Cache Upgradable to 16MB	150
Promise IDE VLB Cache Host Adapter	CALL

TAPE BACKUPS

Colorado 250MB Ext. Parallel Port	359
Colorado 120/250MB Internal Tape	155/159
Palindrome DAT Tape Backup for Novell NetWare	CALL
Mountain & Archive Tape Backup	CALL
ExaByte SCSI Tape Backup	CALL

COMET MICRO SYSTEM

1301 GRANDVIEW DRIVE SOUTH SAN FRANCISCO, CA 94080
PHONE: (415) 615-9123. FAX: (415) 615-0287
VOTED ONE OF THE BEST TEN COMPUTER STORES IN THE BAY AREA!

San Francisco
Grandview Dr.
Grand Ave.
Interstate 280
U.S. 101
N
Interstate 380
San Jose

TERMS & CONDITIONS

Prices subject to change w/o notice. Not responsible for typos/errors. No surcharge on credit cards on advertised prices only. Please call for items not listed. One year warranty on all parts. Three years warranty on labor. Dealer & Quantity pricing available.

SCHWAB SYSTEMS

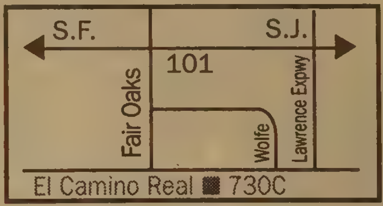
SINCE 1987

SCHWAB COMPUTER

730 EAST EL CAMINO REAL, SUITE C • SUNNYVALE, CA. 94087 • HOURS: M-F 9-6 SAT 11-4

YOU GET WHAT YOU NEED: THE BEST VALUE FOR YOUR MONEY!

TEL: (408) 245-6666 • FAX: (408) 245-3103



SC486DX VLB SUPER SYSTEM

- INTEL 486DX-33 MHz CPU
- 256K CACHE
- 4 MB RAM
- 1.2 MB OR 1.44 MB FLOPPY DRIVE
- 101 KEYBOARD AND I/O CARD
- 245 MB HARD DISK
- VLB VIDEO ACCELERATOR
- IDE CONTROLLER
- 14 SVGA MONITOR .28MM
- MINI TOWER CASE W/230W POWER SUPPLY

$1250

SC386DX-33/40 ISA SYSTEM

- INTEL/AMD CPU
- 128K CACHE
- 4 MB RAM
- 130 MB HARD DISK
- IDE CONTROLLER
- 1.2 MB OR 1.44 MB FLOPPY DRIVE
- 101 KEYBOARD AND I/O CARD
- SVGA ADAPTER WITH 512K
- 14 SVGA MONITOR 0.28MM
- MINI-TOWER CASE W/230W POWER SUPPLY

$868

MOTHERBOARDS

486 VLB 33/66 256KC w/o CPU	$120
386 DX 33/40 128KC w/CPU	115
486 SX 25 w/CPU 128KC	175
386SX 33 w/CPU	110

FLOPPY & TAPE BACK-UP

1.2 MB 5.25"	$49
1.44 MB 3.5"	42
Teac 1.2 & 1.44 MB	119
Colorado 120 MB TB	125
Colorado 250 MB TB	175

MODEMS

2400 Internal	$36
24/96 Fax Internal	55
14.4/14.4 Fax Internal	139
14.4/14.4 Fax External	189

All w/Software For DOS & WIN.

MOUSE & DIGITIZERS

Mouse System Serial Mouse	$18
Logitech 3 Button	25
Microsoft Serial	49
Microsoft Bus	69
Logitech Trackball	79
Summasketch III 12x12	329
Calcomp	CALL
Kurta	CALL

HARD DRIVES

130 MB IDE	$175
245 MB ID	239
340 MB IDE	285
1.2 GB SCSI	889

HARD DISK SPECIAL

MAXTOR 540 MB IDE HARD DISK $410

DISK CONTROLLERS

IDE Controller	$15
IDE + I/O	22
IDE VLB + I/O	45
16-Bit SCSI Controller	90
Adaptec 1542C Kit	245
Adaptec 2742C Kit	419
Ultrastor 34F VLB	299

NETWORKING

NE 1000 Comp 8 Bit	$49
NE 2000 Comp. 16 Bit	59
SMC Elite 16 Bit	115
3COM	CALL
LANtastic AE-2 Starter	499
LANTastic AE-2 Adapter	199

SCANNERS & ETC.

Complete PC GS Full Page	$325
ScanPlus Color Full Page	395

MONITORS

12/14" Mono	$95
14" SVGA 0.28mm	240
14" SVGA NI 0.28mm	280
15" 1280 NI	390
17" NANAO F550i NI	850
20" HITACHI 1280 NI	1399

KEYBOARDS

Mitsumi 101	$25
Lite-On 101	26
Keytronic 101	36
MaxiSwitch 101	38
Click 101	23
Focus 9000	65

CD-ROMS & SOUND

Panasonic Int w/Card Dbl. Speed (Photo CD Ready)	$189
Toshiba 3401B Int	339
Toshiba 3401B Ext	429
Spectrum 16 Sound Card	105

SOFTWARE

DOS 6.0	$45
Windows 3.1	59
MS-Word	299
MS-Excel	299
MS-Office	479

VIDEO ADAPTERS

SVGA w/512K	$38
SVGA w/ 1 MB	59
Orchid F1280 VLB w/1 MB	169
Stealth 24 VLB w/1 MB	169
ATI Ultra Pro VLB w/1 MB	320

CASES

Mini Tower w/230W	$55
Mini Desktop w/220W	57
Mid Tower w/250W	79
Full Tower w/250W	109
Full Tower w/300W	149

PRINTERS

Panasonic 2123	$199
Panasonic 2180	169
Panasonic 2624	339
HP DeskJet 550C	519
HP 4L Laser Printer	CALL
OKI Laser 400	CALL

MEMORY CHIPS

1x9-70ns	$CALL
4x9-70ns	CALL
387SX-33	CALL
387DX-33	CALL
486DX-33	CALL
486DX-66	CALL

■ WE OFFER LIFETIME FREE TECHNICAL SUPPORT WITH EVERY SCHWAB SYSTEM SOLD PLUS ONE YEAR PARTS AND LABOR WARRANTY.

■ PRICES AND AVAILABILITY AND SPECIFICATIONS ARE SUBJECT TO CHANGE W/O NOTICE ■ NOT RESPONSIBLE FOR TYPOGRAPHIC ERRORS ■ GOVERNMENT, UNIVERSITY AND QUALIFIED FIRMS PO ACCEPTED

LOWEST PRICES
SAME DAY
SHIPPING

AMT INTERNATIONAL

2393 QUME DRIVE, SAN JOSE, CA 95131
(408) 432-1790 (408) 383-9044 FAX (408) 383-9047

VISA

LOWEST PRICES
SAME DAY
SHIPPING

QUANTITY PRICING FOR DEALERS & VARS, PLEASE CALL!!

INTEL CPU CHIPS

PENTIUM 66 MHz	$1300
PENTIUM 60 MHz	1100
80486DX-33 MHz	270
80486DX-50 MHz	415
80486DX2-50 MHz	.295
80486DX2-66 MHz	.445
80486SX-25 MHz	85
80486SX-33 MHz	125

A.M.D. CPU CHIPS

80486DX-40 MHz	$245
80486-2-50 MHz	260
80486-2-66 MHz	385

MEMORY UPGRADES- DUE TO THE RAPIDLY CHANGING PRICES CALL FOR THE LATEST PRICES!

SIMMS

IBM TYPE

1x9-60 3 Chip	$46
1x9-70 3 Chip	45
1x9-80 3 Chip	44
1x9-80/70/60 9 chip	52/62/72
1x9-10	40
4x8-70	155
4x9-70	165
4x9-80	155
4x9-60	170

MAC TYPE

1x8-100 8 Chip	$40
1x8-80 2 Chip	44
1x8-70 2 Chip	46
1x8-80/70 8 Chip	53
2x8-80/70	100
4x8-80/70	135/140
16x8-80/70	CALL
Mac IIfx 4/16 MB Kit	CALL
256K VRAM	CALL
512K VRAM	CALL
16/32/64/128MB Kits for Quadra 700/900 & Mac IIfx, ci	CALL
NEW 72 PIN SIMM for MAC LCII & CENTRIS	CALL

72 PIN SIMMS (36 BIT)

256Kx36-80/70	$53/56
512Kx36-80	95
512Kx36-70	102
1x36-70	170
1x36-60	189
2x36-80/70/60	339/340/365
4x36-80/70	640
8x36-70 NEW	1700

32 BIT SIMMS ALSO AVAILABLE

DRAMS

DRAMS

256x1-80	$1.80
256x1-100	1.50
256x1-120	1.50
256x4-70/80	5.49
64x4-80/100	2.00
1x4-80 DIPP	45
1MBx1-70	6.99
1MBx1-80/60	6.99
SOJ	CALL

ZIPPS

64x4-10/12 Page, 18pin	$6.00
256x4-80/70 Page, 20pin	8
256x4 Video Page 28pin TC524256Z-70	10
256x4 Video 28pin TC524256Z-60	12
1x4-80/70 Page 20pin	44
1x4-80/70 Page 20pin DIPP	48

CACHE MEMORY

32Kx8-20	$6.95
32Kx8-15	7.95
64x4-20	7.00
64x4-15	9.50
8Kx8-20	3.75
8Kx8-15	4.00
16Kx4-20	3.75
16Kx4-15	4.50
64x1-20	6.75
64x1-15	8.50
128x8-2	45
128x8-25	37

MATH CO's

INTEL/CYRIX/ULSI

287-10	$39
8087-1/2/3	45/69/89
287XL Intel Tube	49
387SL Intel Tube	65
387SX-16/20	45/64
387SX-25 Cyrix	59
387SX 33 ULSI	49
387DX-20 Intel Tube	40
387DX-25 Intel Tube	45
387DX-33 Intel Box	79
387DX-40 Cyrix/IIT	70
4167-25/33 Weitek	299/525

CALL FOR PRICING ON IIT, ULSI & WEITEK

LASER PRINTER MEMORY

Price includes Memory, Board
& Installation Instructions

IBM LASER

4019/4019E 1/2/3.5 MB	$99/139/189
4029 (All Model) 4 MB	189

EPSON LASER

6000-2/4MB	$159/245
7000-1/2/3 MB	125/149/189
Action LaserII-2/3/5 MB	159/205/299

HP LASER

HPII/IID 2/4 MB Board	$125/220
HP 4/4M 4/8MB	179/369
HP IIP,IIP+,III,IIID,IIIP 1/2/3/4	99/135/159/220
IIsi 4/8 MB	179/299
DeskJet 500/500c 550C 256K	89
Design Jet Plotter 4 MB	155

PANASONIC LASER

KXP4410/KXP4430 1/2/3/4 MB	$119/150/175/225
KXP4420/4450/4451 1/2/3/4 MB	119/145/159/225
KXP4450 1 MB	119
KXP4455 2 MB	139

OKI LASER

OL400 1/2 MB Board	$109/129
OL800/820 2/4 MB Board	129/189
OL810 2/3/4 MB Board	159/189/229

QMS LASER

PS 410 2/3/4 MB	$119/165/189
PS 860, 1700 1/4/8 MB	89/133/179
PS 815, 825, 815MR, 2/4/6	168/232/295

SHARP LASER

9500PS 1 MB	$75
JX-9500/9700 1/1.5/2.5/4	110/135/188/344

OTHERS

Apple Laserwriter II/IINT/IINTX 4 MB	$169
Brother HL-4 2/3/4 MB	119/165/189
Brother HL-8E V 1/2 MB	99/139
Compaq Pagemarq 15 & 20 1/4/8	.79/139/266
Kyocera F800, F800Am F800T 2/4	95/137
NEC Silentwriter 90/290	109/124
NEC Silentwriter 95 2 MB	109
TI Microlaser 1 MB	69
Packard Bell Video Memory 1 MB	39

DELL MEMORY

Model		P/N	
433P,33P,325P,33D,325D			
	1 MB	310-2505	$89
	4 MB	310-2507	169
433TE, 425TE & Powerline Workstation			
	2 MB	310-2466	$129
	4 MB	310-2467	189
	8 MB	310-2468	349
	16 MB	310-2469	669
Power Desktop 486D, D/33, D/25, D/20, D/66			
	1 MB	310-2505	$89
	4 MB	310-2507	169
	16 MB	310-2625	669
OTHER MODELS			CALL

MEMORY BOARDS

- RAMpAT 16 Bit $85
- RAMpAT Plus 125
- SIMMply RAM for PS/1 16 Bit 149
- SIMMply RAM 159

TEAC FLOPPY DRIVES

1.44 MB	$47
1.2 MB	57
Dual Floppy 1.2/1.44	135
Heat Sink w/Fan For 486's/Pentium	12/20

COMPAQ MEMORY

Model		P/N	
LTE 286	1 MB	117081-001	$89
	2 MB	117081-002	125
	4 MB	117081-003	219
SLT 286	1/4 MB	110237-001	99/259
LTE 386S/20	2 MB	12125-001	129
	4 MB	121125-002	225
Contura Lite 20/25			
	2 MB	129769-001	125
	4 MB	129769-002	245
	8 MB	129769-003	395
Portable 386	1 MB	107651-001	125
	4 MB	107653-001	310
Portable III	2 MB	10-7332-001	125
	EBD	167811-001	225
SLT 386	2 MB	118304-001	135
	4 MB	118305-001	225
Deskpro 386S (E. Board)			
	4 MB	11364-001	255
	4 MB	112534-001	189
Deskpro 386/33L, 486/33L, 50/25			
	2 MB	115144-001	105
	8 MB	116561-001	365
	32 MB	116568-001	1475
Deskpro 386/20e, 25e (E. Board)			
	4 MB	113645-001	249
Deskpro 386/20,20e,25e			
	4 MB	113132-001	199
Deskpro 286N, 386N, 386SX/20, 386/25M, 486/33M, 486S/25M, 486S/16M			
	2 MB	118689-001	189
	4 MB	118690-001	345
	8 MB	128877-001	395
Deskpro 486/33L, 486/50L, 386/33L			CALL
Prolinea 3/255 & 3/252S			
	2 MB	141738-001	135
	8 MB	141742-001	315
Prolinea 4/33	2 MB	141682-001	125
	4 MB	141684-001	189
	8 MB	141685-001	345
Other Models			CALL

TOSHIBA MEMORY

T8500, T5200	2/8MB	$129/449
T5100, T3100, T1600	2 MB	139
T3100SX	2/4 MB	129/159
T3200SX, SXC	2/4 MB	125/199
T4400SX, SXC, T6400	2/4 MB	135/249
T4500, T4600, T1900, T1950/C	8/16 MB	429/699
T3300SL	2/4/6 MB	135/210/299
T3100	2 MB	135
T2200SX, SXE, T1000LE	2/4/8MB	135/210/379
T1800 Satelite	2/4/8 MB	135/210/379

NEC MEMORY

Prospeed 286, 386SX/16	1/2/4 MB	$125/185/269
Prospeed 386	2/4 MB	189/475
Prospeed SX/20	1/4 MB	125/249
Powermate 386/25S	2/8MB	139/369
Powermate 486/25E, 486/33I	2/8 MB	135/365
Powermate Express Series	1/4/16 MB	135/225/689
Other Models		CALL

NOTEBOOK MEMORY

AMIGA 4000	4/8 MB	169/310
Altima LSX	2/4 MB	165/249
Avanti	2/4 MB	160/340
AST Premium Exec	1/4 MB	119/245
AST Power Exec 3/25	4/8/16 MB	CALL
Compaq Contura Lite 20/25	2/4/8 MB	135/245/395
Chaplet Notebook	2/4 MB	155/249
Chicony 386SX	4 MB	198
Chicony 386SL/25	2/4 MB	149/229
DECPC 320P	2/4/6 MB	195/269/389
DELL 320N &212N	1/2 MB	99/125
DELL 320N, NC	2 MB	125
DELL 325N, NC	2 MB	179
DELL NL25, NL20	2 MB	179
Epson NBS3	1/4 MB	98/225
Everex Tempo LX	2 MB	135
HP 95LX	1/2 MB	159/279
IBM L40SX, N33/SX	2/4/8 MB	99/189/389
IBM N51SX & SLC	1/4/8 MB	99/155/299
IBM PS/2 N45 Sl	2 MB	179
MAC PB 160, 180	6/10 MB	249/425
MAC PB 140, 170	2/4/6 MB	89/175/229
MAC PB 100	2/4/6 MB	89/179/239
Magnavox Metalis 386SX	4 MB	199
NEC Ultralite 286F	1/4 MB	99/199
Packard Bell 386SX	1/4 MB	99/229
Panasonic CF 170/270/370	1/2 MB	65/99
Sharp PC 8501	2 MB	125
Sharp 678/6881	2 MB	129
Sampo NB SX/26, SX/25	2/4 MB	145/225
TI Travelmate 2000	1 MB	110
TI Travelmate 3000	2 MB	135
TI Travelmate 4000	4 MB	229
Zenith Turbosport 386 E	1/4 MB	125/325
Zenith Supersport SX	2 MB	189
Zenith Mastersport	2 MB	189

IBM PS/2 & PS/1 MEMORY

PS/1 286/386SX	2/4 MB	$135/225
PS/1 Consultant Essential/Expert	1/2/4/8 MB	79/99/189/320
386 Valuepoint	2/4/8 MB	99/179/325
486 Valuepoint	4/16 MB	189/595
PS/2 30-286	2 MB	99
50Z, 55SX, 65SX, 70	2/4 MB	99/179
40SX, 35SX,35SL	2/4 MB	99/179
70A21, A61, 121	2 MB	135
80-11, 121, 311	4 MB	245
95,90,P75, PS/1 Pro	2/4/8 MB	135/129/335
16 Bit Exp Bd For 50, 50Z, 60, 65SX	0K	179
32 Bit Exp Board for all 70 & 80 models	0K	189
RISC 6000	16/32/64 MB	745/1490/2890
Other Models		CALL

AST MEMORY

Bravo 3/33(LC) 325S	2/8 MB	$120/325
Bravo 486/25 & 4/33	2/8 MB	135/345
Bravo 486LC	4/8/16 MB	189/325/595
Cupid-32 Board	0K	239
Premium 386C	4 MB	189
Premium SE 450	4 MB	189
Premium 386/25, SX,33,486/25	1 MB	85
Premium II 386, 486	1/4 MB	85/189
Executive Notebook	4 MB	189
Other Models		CALL

SUN MEMORY

SPARC SLC	4 MB	$189
3/60, 80, 4/40, 60, 65	4/16 MB	189/795
SPARC 1 &1+, 1Pc	4/16 MB	189/795
SPARC 10	16/64 MB	745/CALL
SUN Classic	16 MB	745
SPARC Server 630np	64 MB	2285
SUN IPX, ELC	4/16 MB	189/795
SPARC II	16 MB	795
Other Models		CALL

TERMS AND CONDITIONS

1. Gov't, University And Qualified Firms PO'S Welcome
2. U.S. and International Shipping VIA UPS, DHL and Federal Express
3. All Sales Must Include Sales Tax
4. All Sales Must Be C.O.D. Cashier/Certified Checks
5. There Is A 15% restocking Charge For All Refused Merchandise
6. Prices Subject To Change W/O Notice, Not Responsible For Typo's
7. Call For Latest Prices
8. 30 Day Warranty on 486 CPU's Call For Pentium Warranty

HOURS: MON-FRI 9am-5pm

SUPER DEALS

Panasonic CR-562 CD ROM 320ms, 300K/Sec., Double Speed Plus Free CD	$169
Sony CD-ROM CDU33 320ms, 300KB/Sec Double Speed	$169
NEW! Mitsumi CD-ROM 250ms, 350K/Sec, Double Speed Controller Card included, Free CD.	$169
Quantum 270AT 270MB Hard Drive	$225
340MB Hard Drive 12ms	$255
386DX-40MHz Motherboard 128K Cache, CPU Included	$99
Colorado Tape Backup	$149
1.2MB Floppy Drive	$45
1.44MB Floppy Drive	$38

Multimedia 486-40MHz

- Mini Tower Case 230W PS
- 486DLC-40MHz MB /CPU
- Math Co-Processor **Included**
- 4MB RAM Memory (70ns)
- IDE 2HD/2FD Controller
- Chinon 1.2MB & 1.44MB FD
- **Conner 250MB HD -13ms**
- **Windows Accelerator 1MB 14" Super VGA Monitor (.28)**
- **Audio Plus (Sound Blaster 2.0)**
- **Mitsumi Photo CD-ROM** (350ms Access, 150KB/S, Made in Japan)
- **Magnetic Shielded Speakers** MIDI, Audio Microphone Built-in Manuals & Software Drivers
- Keyboard & Mouse

Microsoft Bookshelf 1993

- Concise Columbia Encyclopedia
- Bartletts Familiar Quotations
- Dictionary of Quotations
- American Heritage Dictionary & Thesaurus
- World Almanac
- Hammond World Atlas

FOR ONLY **$1188**

Deluxe Starter CD-Kit

- Panasonic CD-R562 CD-ROM
- 320ms, 300KB/Sec, Double Speed
- Sound Blaster Pro Deluxe
- Stereo Output
- CD Title FREE!
- Shielded Speakers Included

ON SALE FOR ONLY.......... **$269**

Deluxe 16 CD KIT

- Mitsumi CD-ROM
- 250ms, 350KB/Sec, Double Speed
- Sound Blaster 16 Sound Card
- 16 Bit Stereo Output
- CD Title FREE!
- Shielded Speakers Included

ON SALE FOR ONLY........... **$325**

Deluxe 16 CD KIT

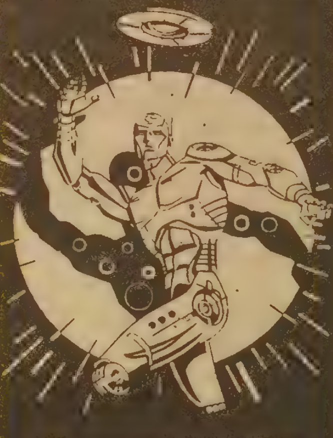
- Toshiba CD-ROM
- 250ms, 350KB/Sec, Double Speed
- Pro Audio 16 Sound Card
- 16 Bit Stereo Output
- CD Title FREE!
- Shielded Speakers Included

ON SALE FOR ONLY........... **$475**

KONICOM

FOR... THE BEST PRICES AND THE BEST SERVICE IN TOWN

Financing Available!



Please Call For More Information

TEL: (415) 664-3268

FAX: (415) 664-0883

Notebook Special

- 486SLL-33MHz
- 4MB RAM/120MB HD
- Trackball Included
- Math-Co Socket
- Mono VGA LCD Screen
- 3.5 FD 1.44MB

Bonus!
- 96/24 Fax Modem
- Hard Carrying Case

$1299

COMPUTERS CASES/PS

Mini Tower Case/PS	$45
Medium Tower Case/PS	$65
Full Tower Case/PS	$88
Deluxe Baby AT Case/PS	$65
Slim Power Supply 230W	$35
AT Power Supply 230W	$45
Full Tower Power Supply	$49

KEYBOARDS

101 Enhanced Keyboard	$19
101 Key Click Keyboard	$25
Mitsumi Keyboard	$25
Maxiswitch Keyboard	$33
Keytronics Keyboard	$38

MODEMS

GVC 14,400 FD (16550)	$159
GVC 14, 400 FD External	$179
GVC 2400 Internal	$30
Smartlink 9600/2400 Internal	$49
Smartlink 14,400 Fax/Data	$135
Zoltrix 2400 Internal	$30
Zoltrix 9600/2400 FD	$55
Zoltrix 14,400 Internal FD	$125
Zoltrix 14,400 External FD	$179

TAPE BU / CONTROLLERS

Archive 250MB /Free Tapes	$168
Colorado 250MB / Tape	$185
IDE 2HD/2FD with I/O	$14
Promise VESA IDE /I/O	$39
Adaptec 1522 SCSI	$95
Adaptec 1542C SCSI	$195

MISCELLANEOUS

3 1/2 High Density Floppies	$55
3 1/2 Low Density Floppies	$50
3M DC-2120 Tape	$19
Labtec Stereo Speakers	$15
Magnetic Shielded Speakers	$10
Quick Shot Joystick	$15
Mouse Pad	$2.50
Computer Cables	Call

CD-ROM

Mitsumi LU005S-350ms-	$159
Mitsumi Double Speed 260ms	$185
NEC 3X1-195ms	$495
Panasonic CD-562-320ms	$179
Sony CDU-33- 300ms	$189
Sony CDU-561-285ms	$345
Toshiba XM-3401B 200ms	$345

HARD DRIVES/FOPPY DRIVES

Conner CP30104-120MB-16ms	$179
Conner CP30174-170MB-17ms	$189
Conner 3FA340A	$249
Conner CP30254 250MB 14ms	$229
Conner CP30344 345MB 14ms	$255
Conner CP30544 540MB 12ms	$550
Maxtor 7131 AT 130MB 15ms	$169
Maxtor 7213 AT 212MB 15ms	$215
Maxtor 7245 AT 245MB 15ms	$239
Maxtor 7345 AT 340MB 13ms	$299
Maxtor MXT 540 535MB 10ms	$750
Quantum 270AT-12ms	$239
Quantum LPS240 245MB 14ms	$239
Quantum ELS170 170MB 14ms	$179
Quantum EPS525AT 525MB 12ms	$575
Western Digital 2200 212MB 14ms	$199
Western Digital 2250 250MB 14ms	$229
Western Digital 2340 340MB 13ms	$275
Western Digital 240 425MB 12ms	$388
Toshiba 1.2GB 12ms	$929
Teac 1.2MB FD	$50
Teac 1.44MB FD	$49
Chinon 1.2MB FD	$48
Chinon 1.44MB FD	$48

SOUND CARDS

Creative Labs Sound Blaster Pro	$95
Creative Labs Sound Blaster 16	$159
Creative Labs Sound Blaster 16 ASP	$195
Creative Labs Video Blaster	$329
Zoltrix Audio Plus	$39
Media Vision Pro Audio Spectrum 16	$135
Media Vision Pro Audio Studio 16	$199

MOTHERBOARD W/CPU

BIOSTAR 386SX-33 AMD	$85
BIOSTAR 386 DX-40 AMD/128K	$129
BIOSTAR 486DLC-33 Cyrix /128K	$139
BIOSTAR 486DLC-33/ Math Co	$199
BIOSTAR 486DLC-40 Cyrix 128K	$175
BIOSTAR 486DLC-40 Math Co	$199
BIOSTAR 486DLC-25 Intel 128K	$195
BIOSTAR 486DX-33 Intel 128K	$375
BIOSTAR 486DX2-50 Intel 128K	$465
BIOSTAR 486DX-50 Intel 128K	$525
BIOSTAR 486DX2-66 Intel 128K	$565
BIOSTAR 486DX-33 VL Intel 128K	$389
BIOSTAR 486DX2-50VL Intel 128K	$495
BIOSTAR 486DX2-66 VL Intel 128K	$595
IBM 486SLC2-50 Math Co	$288
IBM 486SLC2-66 Math Co	$299
IBM 486SLC2-50 VESA	$333
IBM 486SLC2-66 VESA	$349
IBM 486SLC2-66 VESA Math Co	$399

MONITORS/VIDEO CARDS

Arche SVGA .39	$195
Arche SVGA .28	$225
Arche SVGA .28 NI	$249
Arche SVGA 15"	$359
SVGA 1024X768 .28	$229
SVGA 1024X768 NI	$249
SVGA 1280x1024 NI	$325
MAG Inno MX15F	$510
MAG Inno MX 17F	$915
NEC 3FGe 15"	$579
NEC 4FGe 15"	$679
NEC 5FGe 17"	$1070
NEC 5FGP 17"	$1395
NEC 6FG 21"	$2275
Sony CPD 1430 14"	$575
Sony CPD 1730 17"	$969
Sony GDM 2036S 20"	$1925
Sony GDM 2038 20"	$2199
Hitachi CM2095 20"	$1299
Hitachi CM2087MU 20"	$1599
Hitachi CM2187MU 21"	$1899
Hitachi CM1785MU 17"	$899
Nanao F340iW 15"	$699
Nanao F550i 17"	$1025
Nanao F550iW 17"	$Call
Nanao T560i 17"	$1699
Nanao T660i 20"	$2495
Nanao F750i 21"	$1975
Nanao F760iW 21"	$1999
Nanao 6500 21" Mono	$1225
ADI 4G 15"	$415
ADI 3G 14"	$345
Viewsonic	Call
VGA 512K 16 Bit	$45
SVGA 1M Video Card	$65
Trident 8900C SVGA	$69
VESA Cirrus Logic SVGA	$88
GENOA 8500 VL SVGA	$105
Orchid Fahrenheit VA	$159
Orchid Fahrenheit VL	$145
Orchid Celsius	$229
Orchid P9000	$349
ATI GU +2M	$245
ATI GU Pro 2M	$359
ATI GU Pro VLB	$359
Diamond Stealth 24	$159
Diamond Stealth Pro	$259
SpeedStar Pro	$139
SpeedStar Pro VLB	$139
Diamond Viper VLB	$379

Hundreds of CD Titles In Stock at Every Day LOW LOW Prices!

VESA Systems

Standard Configuration:

- 3 Local Bus Slots
- Mini Tower Case /PS
- 32 Bit VLB Motherboard with CPU
- 4MB RAM Memory
- Promise VESA IDE Controller
- 1.2MB and 1.44MB FD
- Conner 340MB HD
- 32-Bit SVGA Video-1M
- 15" SVGA Monitor (.28) NI
- Enhanced Keyboard
- MS Compatible Mouse
- Serial, 1 Parallel, 1 Game

PENTIUM P-24 OVERDRIVE READY

486SX-40/128K AMD 486DX-40MHz CPU Inside	$1299
486DX-33/128K Intel 486DX2-33 CPU Inside	$1299
486DX2-50/128K Intel 486DX2-50 CPU Inside	$1399
486DX2-66/128K Intel 486DX2-66 CPU Inside	$1499
486SLC2-66 IBM SLC2-66 with Math-Co	$1399

Terms & Conditions

- Prices subject to change W/O notice
- Prices advertised reflect cash prices
- Not Responsible for typographical errors
- All brands and product names are trademarks or registered trademarks of their respective companies.
- 1 Year parts & **5 Years labor warranty!**

Extended Hours to Serve You Better/OPEN 7 DAYS

Monday-Thursday 9:30-7PM
Friday 9:30-8PM
Saturday 10-6 SUNDAY 11-5

The $88 CD Title Special - Sale Ends Soon!

Educational Pack $88 (All 6 Titles!)

- NEW! Grolier's Encyclopedia 6.0-MPC
- Mavis Beacon Typing Tutor-MPC
- Mayo Clinic Health Clinic-MPC
- US and World Atlas - MPC
- Chessmaster 3000-MPC
- National Geographic Mammals-MPC

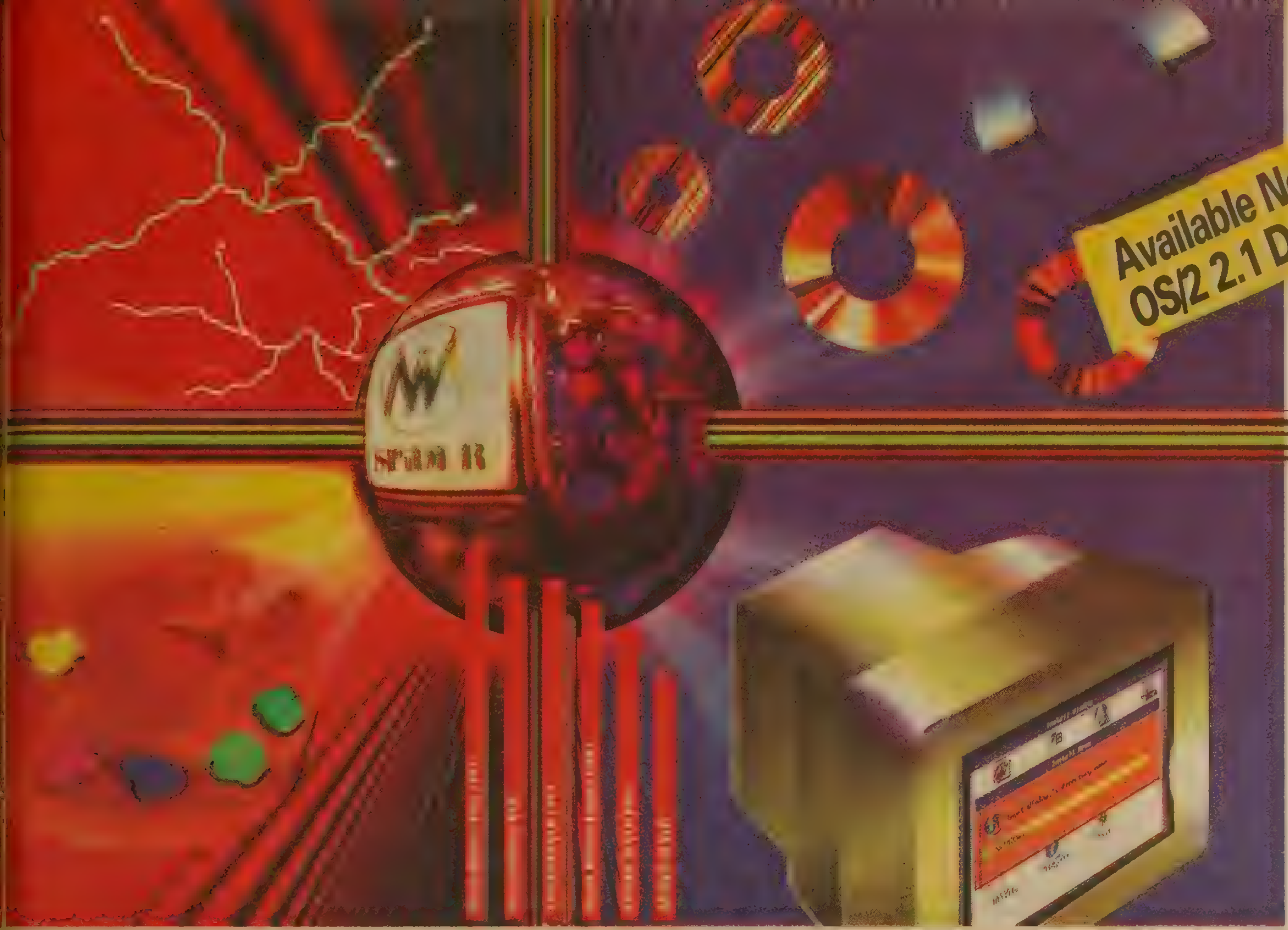
Children's Pack $88 (All 6 Titles!)

- Arthur's Teacher Trouble-MPC
- Putt-Putt Joins the Parade
- Mario is Missing Deluxe
- Carmen San Diego Deluxe Version
- Fatty Bear's Birthday Surprise
- Family Educational Collection Choose

Game Pack $88 (Choose any 5 Titles!)

- LOOM by Lucus
- Legend of the Kyrandia
- Adventures of Willy Beamish
- Jones in the Fast Lane
- Rebel Assault
- Star Wars Chess
- King's Quest V
- King's Quest VI
- Battle Chess Enhanced
- Dagger of Amon Ra-Laura Bow
- Mantis Experimental Fighter
- Secrets of the Monkey Island
- MicroPose Game Pack (4 games)
- Challenge Pack (9 games)
- Secret Weapons of the Luftwaffe

KONICOM
COMPUTERS, INC.
1510 Noriega Street • San Francisco, CA 94122
Tel: (415) 664-3268 • Fax: (415) 664-0883
MasterCard **90 Days Same as Cash!!** VISA



SPiDER®
Graphics, Inc.

Put a SPiDER in your computer!

"Spider Graphics, means high performance, affordable prices & best support."
Pixel U.S.A., Dealer

"Spider Graphics is number one in Graphics Accelerator Card sales, in Northern California."
Chem Corporation, Distributor

"With the new Windows enviroment today, you can buy an VLB IDE controller or a fast 486 motherboard. But to buy a graphics card, I highly recommend Spider Graphics Accelerator, an American made graphics card, for the best value, support and up-to-date software drivers."
Art Computer Tech., Dealer

Thanks to all the distributors, dealers and end-users. With your supports, we have shipped over 30,000 Spider VGA Cards within three months. We will continue to develop new products and new software drivers for current and future graphics cards. Please call BBS for updated drivers.

BBS (408) 956-1314

SPiDER GRAPHICS

SPiDER Black Widow VLB
New Feature: Virtual Screen for Windows

"The Black Widow had a pleasing install utility...was the second-fastest card that uses an AGX-015"
PC Magazine Dec. 7, 1993

Specifications:

- Accelerator: IIT AGX-015
- Fast VRAM
- High Refresh Rate (up to 90Hz)
- Supports VESA LOCAL BUS (VL-BUS)

Driver Supports:

- Windows 3.1
- Windows NT 3.1
- AutoCad R.11, 12
- AutoShade R.2.0
- VersaCAD Ver 7.0
- CADKey Ver 6.0
- PCAD Ver 5.0
- Lotus 1-2-3 R.2.X
- WordPerfect 5.1
- MicroStation 3.1, 4.0 or later
- OS/2 Ver 2.1

Resolution	1 MB	2 MB
640 x 480	16.7 M Colors	16.7 M Colors
800 x 600	64K Colors	16.7 M Colors
1024 x 768	256 Colors	64K Colors
1280 x 1024	16 Colors	256 Colors
1600 x 1280		16 Colors

SPiDER VLB PLUS

Specifications:

- Accelerator: Cirrus Logic 5428
- 72 Hz Refresh
- Supports VESA LOCAL BUS (VL-BUS)

Driver Supports:

- Windows 3.1
- Windows NT
- AutoCad R.11, 12
- GEM Ver 2.2
- Lotus 1-2-3 R.2.0, 2.1, 2.2
- Symphony R1.1
- Ventura Publisher Ver 1.1, 2.0
- WordPerfect 5.0, 5.1
- Wordstar 4.0
- Autodesk 3D Studio
- OS/2 Ver 2.1
- AutoDesk-Shade Ver 2.0
- PCAD
- MS-Word

Resolution	1 MB	2 MB
640 x 480	16.7 M Colors	16.7 M Colors
800 x 600	64K Colors	64K Colors
1024 x 768	256 Colors	64K Colors
1280 x 1024	16 Colors	256 Colors

Products Available!	List Prices
SPiDER 32 VLB (Cirrus 5426)	$109
SPiDER 32 VLB Plus (Cirrus 5428)	$145
SPiDER Black Widow (IIT X15)	$225
SPiDER Black Widow ISA (ITT X15)	$215
Coming Soon! ~~Early 1994~~ **Available March 20th**	
SPiDER 64 VLB (Cirrus 5434)	$175
SPiDER 64 PCI (Cirrus 5434)	$185
SPiDER Black Widow Plus (IIT X16)	$255
SPiDER Black Widow PCI (IIT X16)	$255
SPIDER 256K Cache	$185

End-users please call the following dealers:

NCA, San Jose
(408) 363-4600

NCA, Sunnyvale
(408) 739-9010

ASA Computer, Inc.
Santa Clara
(408) 496-6953

Paramount Computer
Pleasant Hill
(510) 680-0204

Art Computer
Milpitas
(408) 946-7852

Computer Express
Santa Clara
(408) 247-1996

Pixel USA Computer
San Jose
(408) 929-7218

Berlin Technology
San Jose
(408) 297-7138

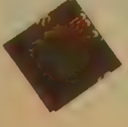
Computer Art II
Sacramento
(916) 366-7128

UMiracle Microsystems
Fremont
(510) 226-6746

[Retailers Please Call (408) 956-1231 For Your Distributors]

All Graphics Card are MADE IN U.S.A

MICROSOFT. WINDOWS. COMPATIBLE



SPiDER®
Graphics, Inc.

801 Ames Avenue • Milpitas, California 95035 • 408 956-1231 • FAX 408 956-1342

Spider Graphics, Inc. and Spider 32 VLB are registered trademarks, and all other product or brand name's are property of their respective owners. © 1993, Spider Graphics, Inc. All rights reserved.

ASA COMPUTERS, INC

National: (800) REAL-PCs (800) 732-5727
Silicon Valley, CA: (408) PCs-FOR-U (408) 727-3678
Pleasant Hill, CA: (510) 256 - 9938
Fax Orders and Enquiries: (408) 988 - 0359
Technical Support (408) 496 - 6853 Ex 215 Mon - Fri 9 - 5
Hours: Mon - Fri 9 - 6 ; Sat 11 - 4
2354 Calle Del Mundo, Santa Clara, CA 95054

Student/Home

Multi-Media System

486DLC-40 w/128K
Mini-Tower Case
4 MB RAM
IDE w/2SPG
DY 126 HDD
Trident 8900C 1 MB
14" SVGA .28 NI Monitor
Double Speed CD-ROM
SoundBlaster C Card
Speakers, Microphone
JoyStick
6 Pack CD Bundle
KeyBoard, Mouse
MS DOS 6.2, WIN 3.1

$1,234

THE ROADRUNNER PCs

Value, Performance, Compatibility

System Pricing

TYPE OF SYSTEM	BUS Structure	BareBone: Motherboard Mini-Tower Case IDE w/2SPG 1.44 FDD 101 K/B Serial Mouse	Complete Systems: BareBone + 1 MB RAM SCSI 40MB HDD 13" VGA Col .28 Refurb 1 yr. War. VGA 256K Card	BareBone + 4 MB RAM Quantum 80 MB (When Available) 14" Mono SVGA SVGA 512K Card	BareBone + 4 MB RAM DY 126 MB HDD 14" SVGA .39 SVGA 1MB Card	BareBone + 8 MB RAM IDE 270 MB HDD 14" SVGA .28 SVGA 1MB Card +1.2 Floppy	BareBone + 8 MB RAM IDE 340 MB HDD 14" SVGA .28 NI SVGA 1MB Card +1.2 Floppy	BareBone + 8 MB RAM IDE 425 MB HDD 15" UVGA .28 NI SVGA 1MB Card +1.2 Floppy
HP Pentium 60 MHz	PCI, EISA	$1,645					$2,588	$2,748
Pentium 60 w/512K	VLB	$1,411					$2,354	$2,514
A486DX2-66 w/256K	VLB	$620				$1,510	$1,563	$1,723
C486DX-33 w/256K	VLB	$430				$1,319	$1,372	$1,533
I486SLC2-66 w/64K	VLB	$377			$966	$1,267	$1,320	$1,480
i486SX-25	VLB	$308			$897	$1,197	$1,250	
i486DX2-50 w/128K	ISA	$489		$917	$1,054	$1,354	$1,407	
C486DX-33 w/128K	ISA	$403		$831	$967	$1,268		
i486SX-33 w/128K	ISA	$306	$630	$734	$870			
A386DX-40 w/128K	ISA	$215	$539	$643	$779			
A386SX-40	ISA	$183	$507	$611				

VLB Systems include VLB Controller and Cirrus Logic 5428 1MB VLB Graphic Card

Where available, upgrade any system to GREEN PC for $15.00 extra

CPUs: A - AMD; C - Cyrix; I - IBM; i - Intel

Bay Area On-Site Service Available

Business/Professional

Multi-Media System

C486DX-33 w/256K VLB
Med-Tower Case
8 MB RAM
IDE w/2SPG VLB
270 MB HDD
CL5428 2 MB VLB
15" 1280 x 1024 .28 NI
NEC Triple Speed CD-ROM
Pro Audio Spectrum 16
LabTec Speakers
KeyTronic K/B
LogiTech Mouse
MS DOS 6.2, WIN 3.1

$2,092

ASA... ...Proven Systems for all Applications

The THOROUGHBRED Workstations - Top-of-the-Line - Power, Functionality, Price

ARCHITECTURE	IBM	AMI - Intel	OPTI - Intel	HP-HCL - Intel	MIPS	DEC
Motherboard	Blue Lightening	Enterprise IV	Capricorn T	Panther	SH-RISC	DEC
CPU	IBM 486BL3-75	Intel 486DX2-66	Intel Pentium P5 - 60	Intel Pentium P5 - 60	MIPS R4450 - 100	ALPHA
CPU Power (Mips)	22	21	42	42	56	-
Cache	256K - 512K	256K - 512K	512K - 2MB	512K - 2MB	512K - 2MB	-
RAM	16MB - 64MB	16MB - 128MB	16MB - 128MB	16MB - 160MB	16MB - 256MB	-
Exp. Slots	2 VESA, 7 ISA	2 VESA, 7 EISA	2 VESA, 7 ISA	3 PCI, 3 EISA, 3 ISA	2 VESA, 5 ISA	-
Drive Controller	IDE VLB Built-In	Adaptec VLB SCSI-2	Adaptec VLB SCSI-2	PCI SCSI-2	32 Bit SCSI-2 Built-in	-
I/O	(2) 16550 S, P	(2) 16550 S, P	(2) 16550 S, P	(2) 16550 S, P	(2) 16550 S, P	(2) 16550 S, P
Video Card	Dia Viper 2MB VLB	Dia Viper 2MB VLB	Dia Viper 2MB VLB	ATI PRO 2MB PCI	GUI S3 1MB - 2MB	-
Video Power (Mws)	50	50	50	56	-	-
Operating System	MS Windows NT	MS Windows NT	MS Windows NT	MS Windows NT	MS Windows NT	MS Windows NT
Case	SuperT w/300W PS	SuperT w/300W PS	SuperT w/300W PS	SuperT w/300W PS	SuperT w/300W PS	DEC DeskTop
Price	$2,407	$2,930	$3,415	$3,584	$3,024	$Coming Soon

WorkStations Include: 1.2 and 1.44 MB Floppy Drives, KeyTronic KeyBoard, Logitech Serial Mouse
Not Included, needed to Add: Hard Disk Drive and Monitor

The Thoroughbred Workstations

Hardware platform for Multiple Operating Systems... and Applications demanding Workstation Power... AutoCad, P-CAD, Windows NT

The Thoroughbred Servers

Outstanding Price Performance and Functionality for Application and Networking Servers

MOTHERBOARDS & CONTROLLERS

ISA/EISA MOTHERBOARDS

286-12/20	$39/55
386SX-40	$64

THE STALLION SERIES

ISA 386DX-40 w/128k	$98
ISA 486SLC-25	$109
ISA 486SX25 128K/256K	$158/164
ISA 486DLC-33/40 w/128K	$134/139
ISA 486SX33 128K/256k	$192/199
ISA 486DX-33/50 256k Intel	$355/515
ISA 486DX-40 256k AMD	$345
ISA 486DX2-50/66 w/256k Intel	$375/555
ISA 486DX2-66 w/256k AMD	$485
EISA 486DX-50 w/256k	$649

VLB/PCI MOTHERBOARDS

486/P24T

PLEASE ASK FOR GREEN PC 486 MOTHERBOARDS

MustangF 486SX-25 ISA/VESA	$185
MustangS 486DX-33/50 W/256K Intel	$365/525
MustangS 486DX2-50/66 W/256K Intel	$385/565
MustangS 486DX-40/66 W/256K AMD	$355/495
MustangT486-33/50/66	$405/565/605
IBM Alaris 486SLC2-66 w/wo Math-Co	$249/279
IBM BlueLightening 486BL3-75	$699
Micronix 486-33/50/66	$595/755/795
AMI S Voyager 486-33/50/66	$625/785/830
AMI S Voyager PCI 486DX2-66	$1129
Pegasus T 486-33/50/66 Eisa/Vesa	$565/725/765
Micronix 486-33/50/66 Eisa/Vesa	$785/945/985
AMI Ent IV 486-33/50/66 Eisa/Vesa	$755/915/955

PENTIUM P5-60 MHz

Capricorn T 512K VLB	$1355
HP-HCL Panther PCI/EISA 512K	$1655

ESDI CONTROLLERS

DTC	$127
Ultra 12C 1/4MB	$370

RAID Controllers in Networking Section

ISA/EISA CONTROLLERS

IDE/MFM/RLL & FAST I/Os

Mustang IDE 2FD-2HD/4FD-2HD	$12/26
Mustang IDE w/ 2SPG	$16
Promise IDE Caching DC200 2FD/4HD	$112
Promise IDE Caching DC2032 2FD/4HD,IO	$149
Ultrastor 15C IDE Caching (upto 8MB)	$195
DTC IDE EISA/HFC RLL Card	$135/20**
UltraStor 22F Caching EISA	$340
FAST-PIG IDE,IO/IO w/16C550 Uarts	$39/29
ULTRA-IO 4S/3P 4 16C550 Bi-Dir.	$139

SCSI

Future Domain Comp 8/16 bit	$39/52
Trantor SCSI Adapter	$59
ADAP 1522 16BIT Card/Kit	$79/136
ADAP 1542C Card/Kit	$199/245
ADAP 1542C+ Kit	$310
ADAP 1742 EISA SCSI-2 Card	$249
ADAP 2742 EISA Fast SCSI2 C/K	$319/359
Bus Logic BT747S	$266**
BusLogic BT747S EISA Fast SCSI2 Kit	$395
DTC3292K 7HD&4FD	$349
DTC3290AS 7HD&4FD Caching	$486
Future Domain TMC1680 SCSI II C/K	$165/245
Forex VLB SCSI Card	$184**
Ultar24F EISA SCSI Card/Kit	$321/347
Promise DC2040 Caching(upto 16MB)	$215
AMI EISA SCSI II Caching 4-16MB	$499
DPT Smart CachePlus+EISA SCSI	$427
Mylex DCE EISA SCSI Caching Ctlr.	$542
Trantor348 Parallel Port to SCSI	$179

VLB/PCI CONTROLLERS

IDE

Mustang IDE/IO	$24
Mustang IDE/IO Cach 4-16MB 15.6mb/sec	$129
DTC 2272 IDE / IO wo/Game	$60
DTC 2270/78 8.3MB/sec IDE / IO	$79/$39
Promise DC-4030 4HD/2FD Caching	$129

SCSI

DTC 3270 SCSI I	$119
Forex Bus-Master VESA,50Hz	$204
BusLogic BT445S Fast SCSI-II	$287
UltraStor 34F SCSI II 32k Card/Kit	$257/289
AMI SCSI II Caching 4-16MB DOS/OS2	$394
ADAPTEC 2842 SCSI II Kit	$289
National SCSI PCI Controller	**$199**

Cases - Power Supplies - KeyBoards - Mice

ROADRUNNER SERIES

Baby Desk/Mini Tower w/PS	$47/44
Medium Tower w/PS	$68
Full Tower(230W)/Big Tower(300W)	$89/169
Rack Mount W/PS	$299

DIAMOND SERIES (For Black add $5)

Baby Desk/Mini Tower w/PS	$74
Medium Tower Slim/Thick w/PS	$89/108
Full Tower w/PS	$119
File Server w/ 400W PS, 3 Fans 12 F/HDD	$439

External HDD/CD-ROM Cases

1HH w/PS 3 5"/5 25"	$69/79
1FH/2HH w/PS	$89
2FH/3HH w/PS	$109
SCSI Cables Int/Ext	$7/9

For Un-Interruptible Power Supplies see UPS's in Networking Section

KEYBOARDS AND MICE

Regular/Spill-Resistant 101	$16/19
MaxiSwitch/KeyTronic	$29
Small 11.5" 88 Keys/BLACK 101	$32
Russian Keyboard	$24
Japanese Keyboard, 106 Keys	$70
SEJIN J-Mouse (mouse under 'J' Key)	$89

Also line of European/Arabic KBs

S-Mouse/TBall	$9/21
LogiTech Ser/Bus bulk	$19/45
LogiTech Mouseman Cordless	$77**
LogiTech Trackman Portable	$66**
Microsoft white box S/B	$39/69
BLACK SERIAL	$19

POWER SUPPLIES

PS2 200/300W	$40/95
PS2 200W **GREEN PC**	$49
Full Tower 230/300/400W	$56/64/154

MASS STORAGE PRODUCTS

FlOPPY DRIVES

YE Data 1.2/1.44MB	$45/39
Teac 1 2/1.44MB	$47/42
Teac Dual Floppy 1.2 + 1.44 MB	$116
Teac 2.88 MB	$89
Toshiba 2.88MB	$58
(w/contl & 2.88 floppy disk)	$94

FLOPTICALS

IOMEGA 21MB w/1 Disk, Cable	$419
YE-DATA 21MB w/5 Disks	$392

HARD DRIVES

2.5" NOTEBOOK DRIVES

QUN 127 /256MB 16msec	$225/339

IDE

(Hard drive prices change often-please call)

QTM 80 19 msec (when available)	$149
Dae Young 120 MB (when available)	$154
QTM 127MB 17 msec(when available)	$179
MXT130 18ms	$179
CON/QTM 170MB 17 msec	$189
CON 210 14msec	$202
WD 212 12msec	$209
ST 214/260MB	$199/229
CON/WD250MB 14msec	$224/230
QTM 270/MXT 245MB 15ms.	$229
WD 340/MXT 340MB 12/14 ms	$275/273
CON/QTM 340MB	$265
CON 425MB	$323
WD 425MB 13msec	$323
FUJ 520MB 12 msec 5yr	$455
QTM 540MB 11msec	$429
MXTR/WD 540 12msec	$399/459
CON 540MB 12msec	$432
MICROPOLIS 1/1.8GB 10ms	$879/1175

SCSI - 3.5"

QTM 42MB SCSI	$69
CON/QTM 170MB 17msec	$189
CON 212MB 12 msec	$280
MXT 245/QUN 240MB Fast	$249/239
MXT 340MB 15 msec	$349
CON 340MB 13msec	$322
FUJ 520/QUN 540MB 11 ms	$465/448
MXT 540MB/CON 540 8/12 ms	$575/489
FUJ 1.2GB 10msec 5 year	$829
MXT 1.2GB 8 msec Magix	$CALL
MICROPOLIS 1/1.8GB 10ms	$879/1179
HP1.2GB 10.5msec	$974
ST1.2GB ST31200N 9 msec.,1"high	$829
ST12400N ST2.1GB 9MS	$1520

SCSI - 5.25"

HP 1.6GB/2.4GB 11.5 msec	$1610/1792
ST41600N1.7GB 11 msec Elite I	$1715
Fuj 2.4GB 12 msec	$1345
ST42100N 2GB 13ms Wren	$1489
ST42400N 2.5GB 11msec EliteII	$1695
ST43400N 3.5GB 11msecEliteIII	$2212

SUPER HARD DRIVES

Seagate Barracuda 3.5" HH (8 msec avg. seek, 4.17 msec lat., 7200 RPM)	
ST11950N/ST12550N 1.7/2.5 GB	$1875/1995

FLASH CARD HARD DRIVE

ST 75A 1.8" 5.2MB IDE<1.5MS	$484
ST 710/720A 1.8" 10.4/20.9MB	$888/1177
ST 740A 1.8" 41.9MB IDE<1.5ms	$2068

EXTERNAL HRD. DRV. SUBSYSTEM

FOR EXT. HARD DRIVE	ADD $99

TAPE DRIVES

(<500MB TAPE-BACKUPs)

Colorado 120 / 250MB	$99/169
Conner 250MB Int w/tape	$155
Colorado KE-10 Ext.kit w/card/card only	$105/37
FC-10 high perf card	$85
Colorado Trakker 250MB	$329
Archive 250MB w/QIC,150MB/min,1"H	$146
Archive Viper 250MB hh SCSI I/E	$335/425

(>500MB for PC / SERVER)

Viper 525MB hh SCSI Int/Ext 6MB/sec	$440/530
Archive Anaconda 1.3GB Int. SCSI 5.25"	$868
Conner Tapestor 1.36 DC6000 Int. SCSI 5.25	$825
Mountain 2/4GB Filesafe Int Dat 4mm	$1629/1959
Archive 4320 NT 2.0GB DAT 3.5"	$829
Archive 4324NT 4.0GB TURBO DAT 3.5"	$1075
Colorado 2.4 / 4.0 GB Qic 5.25	$929/1499
HP 2GB DAT 4mm Int/Ext	$970/1060
HP 4-8GB DAT 4mm Int/Ext	$1119/1199
WANGDAT 3100 2.0GB 4mm Int/Ext	$889/989
WANGDAT 3200 4-8GB 4mm Int/Ext	$1099/1199
EXABYTE 750MB HH MINI Int/Ext	$692/860
EXABYTE 8205 5GB HH Int/Ext	$1595/1695
EXABYTE 8505 10GB HH Int/Ext	$2339/2505

(above drives require special contr & soft drivers)

TAPE BACKUP DRIVERS

Novaback for DOS//OS/2	$65
Novanet Multiuser NLM	$279
ARC Serve Solo	$175
SYTOS for DOS/NOVELL, GEN	$120
Conner Backup Exec for Dos/Win v3.3	$79
Conner Backup Exec for Netware v3.1	$259

MAG/OPTICAL (Rewritable)

TEAC 128MB 3.5" Int/Ext	$625/729
PinnacleTahoe 130 portable 3.5"Opti w/inter.	$999
IBM 127MB 3.5" Int/Ext	$833/943
Panasonic LF-7010 1GB 5.25	$2799
HP 1.3GB 5.25" SCSI-2 EXT	$2799
MAXOPTIC 1GB Tahiti IIM 35msec	$2260

REMOVABLE DRIVES

Syquest 44MB Dr.	$249
......W/Ext Case, Cables, Cart, Cont	$379
Syquest 88/105MB Dr.	$308/389
Bernoulli 44/99 Insider	$907/840
IDE: Upto 1GB removable kits	$39
SCSI: Upto 1GB Removable Kits	$138

DISKETTES & CARTRIDGES

Floppy 1.44 Bulk	$.69
Floppy 1.2 Bulk	$.49
Tape DC2000XL	$18
Tape DC2120 250MB..Formatted	$18.5
Tape DC 6250 5.25", 1/4" Cartridge	$27
Tape DC 6525 5.25", 1/4" Cartridge	$31
TK50 for DECs	$26
DT-2400 2.4GB .25" Cartridge	$54
DT-4000 4.0 GB .25" Cartridge	$57
DAT 4mm 90 mtr HP/OEM	$19/14
DAT 8mm 54/112 mtr	$18/24
Syquest 44/88/105MB Cart	$62/94/85
Bernoulli 44MB/90MB 3Pk	$315/415
Magneto-Optical 650MB Cartridge	$159
Mag-Opt 600MB/650MB 5.25"	$109/149
Mag-Opt 128MB 3.5"	$59
Mag-Opt 10024 B/S WORM 5.25"	$109

VIDEO ADAPTERS & MONITORS

ISA/EISA ADAPTERS

MGP	$12
VGA 256k	$28
Trident 512K/1MB	$38/60
Tseng 1MB	$72
Mustang 1MB Window Accel	$72
Diamond Stealth 24	$149
Diamond Stealth Pro 1/2MB	$249/$339
Fahrenheit Plus wo/w VA	$149/169
Hercules Dynamite Pro 1/2MB	165/209
Hercules Graphite Pro 1/2MB	$259/399
ATI Ultra Grpx 1MB w/Mouse	$219
ATI Ultra 8514 1 MB	$259
ATI Ultra Pro 2MB (no mouse port)	$324
Genoa 7900 w/1MB	$99**
Genoa 8560 w/ 1MB	$179**
Genoa 6200	$39**
ATI Ultra Pro EISA 2MB	$399
AMI Fast View w/2MB Weitek P9000	$490
AMI Fast View EISA VGA Graphics w/1MB	$call

VLB/PCI ADAPTERS

(wm = winmark ver2.5)

MustangVT Trident 1/2MB	$74/119
MustangVC Cirrus logic 5428 1/2MB	$84/129
Spider 32 1MB/2MB,20 WM	$94/139
Spider 32 Plus 1MB	$98
Spider Blk Widow 1/2MB 54 WM	$185/269
DIAMOND Stealth 24vlb 1MB	$149
DIAMOND Stealth pro 1/2MB vram,36wm	$259/349
DIAMOND Viper 2MB,9000,50wm	$374
ORCHID Fahrenheit S3-805,1/2MB	$149/194
ORCHID Celsius 1/2MB	$200/260
Hercules Dynamite Pro 1/2MB	165/209
Hercules Graphite Pro 1/2MB	$259/399
ATI Ultra Pro 2MB, 26wm	$325
ET4000 Cobra 2MB PCI	**$185**
ATI VRAM 2MB PCI	**$379**
DIAMOND VIPER 2MB PCI	**$415**

CAD SPECIALITY ADAPTERS

NUMBER NINE - #9GXI/GXE

L10 ISA/VLB	$249
L11/I12 S3928, ISA&VLB	$359/429
L14 ISA	$649
L20/21 lite	$515/679
L23 WIND/ACAD,T34020,1280,16C	$955
L25F,40MHZ,WIN/ ACAD,,1280,256C	$1225
L29 T34020,1024X768X16.7M Color	$1359

MATROX

MGA-ULT 1A/2A&V	$369/485
MGA-IMP 3A&V/V+z buffer	$688/855
MGA-IMP 3 A/V	$715
MGA-PRO 4.5V/4.5+z buffer	$1119/1399
MGA-PCI 4/4-200	**$744/968**

METHEUS CORPORATION

Premier 928 VL2(1MB)/4(2MB)	$324/559
Premier 928 ISA 1M/2M/4M	$297/422/725
MODULE 1MB Memory	$119
1104 Plus 256 Hz, MultiDisplay	$1295
UGA 1228Hz 256, 60/74Hz	$1895/2095

(We do not have the high end CAD adapters and monitors on display and carry only a few in stock - these are on Just-in-Time inventory basis - please place orders in advance-the prices in parenthesis are on a cash basis only)

9" - 14" MONITORS

MONO

Mono 14" amber/white	$84
Mono 9" VGA or 14" SVGA	$109

VGA/SVGA

VGA IBM 8513 13" .28 refurb 6 mon.	$155
VGA 14" .31 Refurb 6 mon.	$155
SVGA 14" 1024 x 768 .39	$189
SVGA 14" 1024 x 768 .28 Int	$219
SVGA 14" 1024 x 768 .28 NI.	$236
Black SVGA 1024 x .28 I/NI	$279/320
CTX 14" 1024 x 768 .28 Int.	$256
CTX 14" 1024 x 768 .28 NI	$269

CAD MONITORS

Miscellaneous

Darius 15" .28 1280xNI	$359
KANAKA 15" Hitachi Tube 1280 x 1024 28.	$349
Sony 1604s OEM	($835)$870
KFC 15/17"1280NI .28/.26	$379/$739
Mitsubishi 15FS DiamondScan	$495
Mitsubishi 17FS DiamondScan	($999)$1039
Mitsubishi 17 DiamondPro	($1065)$1099
MAGNVX20CM64 20", 1280, .31.	($1210) $1250

NANAO

F550i 17", .28,1024NI MPR2	($969)$999
F550iw17",.281280NI MPR2.	($1156) $1189
T560i 17",.25 1280NI, MPR2	($1659) $1726
T560iw,.26 1280NI,MPR2 Promo	($1363)$1404
T660i 20",.30 1280NI MPR2	($2379) $2459
F760iw21".31,1280NI,MPR2	($2159) $2249

NSA-Hitachi

CM1797 17".28.1280NI,MPRII	($1177)$1225
CM2095 20" 1280 Anti Glare	($1299) $1345
CM2087 20" 1280 72Hz Mic	($1626) $1675
CM2187-515 21" .28 1280NI	($2049) $2130
CM2188 21" .28 1280NI	($2415)$2499

Hitachi America - ACCUVUE

PS-20,.31dpi 1600x NI	($1585)$1645
PS-21,.28dpi 1600xNI	($2079) $2155
PS-21A,.28dpi 1600xNI	($2295)$2389
PS-21.28dpi 1600xNI Mic	($2359) $2440

Sony

CPD1430s 14" 1024NI .25	($529)$545
CPD1730 OEM 1024NI .25	($879)$899
CPD 1730 Original 1024NI,.25	($1019)$1049
GDM17SE 17" 1600NI .25	($1179)$1214
GDM2036S 20", .1280NI,.30	($1989) $2059
GDM2038 20",1280NI,.30	($2249) $2329

Nokia

15" 449E, 28 1024NI	($527)$543
17" 447B Trin 25dpi, 1280x.	($977)$1005
21"445M 26,1280NI	($2071)$2133
21"445X.26,1600NI	($2622)$2710

Sampo

Sampo KDM1767 17" .28	($675)$719
Sampo 1777 17" .28 Microp	($755)$795
Sampo 2055 20" .31	($1040)$1075
Sampo KDM2077 20" NI 1280 .31	($1460)$1520

NEC

CDR-400/500	$455/$506
3V/4FGE	$575/($715)$738
5FGE/FGP17", .28,.($1090)$1149/	($1325) $1365
6FGP21",.28,1280NI	($2487)$2555

MAG

LX1564 15" .28, 1280NI	($395) $405
MX15F 15"MPR II	($505) $515
MX17F,17".26,1280NI,Mic Org.	($895) $905
MX17FG,17".26,1280NI,	($905)$915

AT ASA... ...WE DELIVER

NATIONAL: 1-800-REAL-PCs

SILICON VALLEY: 1-408-PCs-FOR-U

MICRO MARKETPLACE

MULTI MEDIA

CD-ROMs

IDE TYPE CD-ROMs

CD-ROM-#1-of-the-Month
Mitsumi Kit 350msec, 150 KB/S.........**$119**

Panasonic 562 DblSpd.320ms, 300kb/sec	$199
Sony 31A-03,DblSpd 330ms,300KB/sec	$205
Mitsumi Dbl-Spd 250ms,300kb/sec	$199

Super Multi-Media Complete Kit on Sale!
Mitsumi CD-ROM, 150KB/sec, 350ms
8 bit Sound Blaster Compatible Card (for Win)
Quickshot Warrior joystick
Shielded PC spealers
Deluxe model microphone
Award winning Apogee sound-supported
games; all for.................**$179!!!**

SCSI CD-ROMs

NEC 3XE Ext 195ms,450KB/sec	$599
NEC 3XP Portable 250ms,450KB/sec	$445

CD-ROM-#2-of-the-Month
NEC 3X CDR-510 Multispin, 195ms,450KB/sec
......**$419**

TOSHIBA 3401B/E 200ms, 300kb/s I/E.	$337/459
Texel 3028/5028 240ms, 335kb/s I/E	$269/419
SONY CDV561, 295ms, 300kb/sec	$336
Microsolution,350ms,Parallel port	$339
Future Domain SCSI CD-ROM Kit	$69

AUDIO CARDS & MPC KITS

Hyena Snd Blster Comp. 8bit Sound Card	$39
Hyena w/ Speaker, Joystck, mcrphn, games	$59

MEDIA VISION

Pro Audio 16 Basic	$119
Pro Audio Spectrum 16 ORG/OEM	$129/115
Pro Audio Studio 16/Power Pack	$199/69
Fusion Double CD16 Kit Int/Ext	$475/495
Pro 16 Multi-Media System/II	$609/764
Pro Movie Spectrum/Studio II	$279/309

CREATIVE LABS

Sound Blaster Deluxe 8bit	$67
Discovery 8/16 Upgd. Kit	$369/429
Edutainment 8/16 Upgd. Kit	439/489
SoundBlaster 16 Basic/SCSI 2	$129/179
SoundBlaster 16 ASP SCSI/MCD	$209/189
Sound Blaster Voice Editor	$55
Wave/Video Blaster	$179/305

MISC MULTI-MEDIA PRODUCTS

Logitech Fotoman Digital Camera for PC	$465
Logitech SoundMan 16	$109
Intel Smart Video Recorder	$520
Cardinal Tech Digtl Sound Pro 16/Plu	$145/186
Video Logic Captivator Kit win3.1	$369
Midi Mate/CDPC XL	$49/1059

PLOTTERS, DIGITIZERS, SCANNERS & PRINTERS

PLOTTERS

HOUSTON INSTRUMENTS

HI 1117 A/B size,8 pen	$645
V50 INKJET A-C,2MB BUFFER	$1479
HiPlot 7100 A-D 8 pen,LCD display	$2639
HiPlot 7200 A-E 8 pen,LCD display	$3469
DMP-162R A-E, 8 Pen, Roll Feed	$4455

DIGITIZERS

SUMMAGRAPHICS

III 12x12 w/16btn or 4bt & Pen	$299
III 12x18 w/16btn or 4bt & Pen	$539

KURTA

XLP 12x12 w/4btn & Pen	$225
XLP 12x18 w/16btn or 4btn & Pen	$429
IS/ONE 12x12 single cursor	$275
IS/ONE 12x12 two cursor or 12 btn	$299
IS/ONE 12x17 single cursor	$469
IS/ONE 12x17 two cursor or 12btn	$495
XLC 36x48 w/16btn or 4btn&pen	$1540

CALCOMP

CALCOMP 12 X 12/12 x 18	$279/629
CALCOMP 18 X 24	$1275
CALCOMP 6 X 9/12 x 12 P Series	$439/485

SCANNERS

LOGITECH (HAND-HELD)

SCANMAN-COLOR/w OmniPage	$439/479
SCANMAN 256GS / w OmniPage	$159/199
SCANMAN 32GS / w OmniPage	$125/145
SCANMAN EASY TOUCH	$219

MICROTEK

SCANMAKER II/IIXE 600dpi w/OCR	$659/1038
Scan-in-Dex Business card scanner	$275
SCANMAKER 35T Slide,1800dpi,w/Photo.	$1399

MUSTEK(Hand-held)

ScanMagic256,400dpiw/perceive	$109
ScanMagic Color,400dpi,256 grays w/perc	$215
GrayArtist,800dpi,256 grays w/perc	$159
Colorartist Pro,800dpi,256&colr w/per	$315

MUSTEK (Flatbed)

MFS-6000CFB 600dpi,16mill clr,w/Perc	$685
Paragon 600(dpi)24 bitclr,Photoshop	$665
Paragon1200(dpi)24 bitclr,Photoshop	$1125

UMAX Technologies

UC 630 PC,1200dpi max,24bit /256grey	$859
UC840,1600dpi max,16.8 million clrs	$1225
UC1260,2400dpi max,16.8 million clrs	$1769
UC1200SE,2400dpi max.,30 bitclrs	$3039

TAMARACK

6000C-PC w/Colorshop,Photoshop 300dpi	$739
8000C-PC w/Colorshop,photostyler 400dpi	$853
1200C-PCX w/Crshop,Pictr PubLE600dpi	$999

(all Tamarack sanners include scsi card & cable)

Miscellaneous

LeoScan 610 sheet feed,300dpi/256 gray	$599
Westbrook File Majic OCR for scanners	$285

PRINTERS

Miscellaneous

Star Micrnix NX1001 9 Pin.120/220V	$134/144
Star Micronix 220v quantity of 100 only	$135
IGOR 132 9Pin Wide 220V (Cyrl..).In stock with any purchase	**$110**

EPSON

LX810 9Pin dot matrix,3 res. fonts,4k	$183
Action 2250 9 pin,50sheet,240cps	$127
LQ 570+ 24 pin Wide, 269 cps, 11 fonts	$260
LQ 1070+ 24 pin Wide,252cps,11fts	$408
LQ 1170 9pin Wide,2 resident fonts	($664)$676
Stylus 300 Inkjet 360dpi,150cps	$252
Stylus 800 Inkjet 360dpi,150cps,100sht	$298
Action Laser 1000 300dpi,6ppm,512k	$699
ActionLaser 1500 300dpi,6ppm,1mb.	($678)$735

CANON

BJ 200/230,360dpi,49k,7fnts,4ppm	$309/399
BJ10SX,110cps,360dpi,**Portable**	($269)
BJC 600 Color,240cps,360dpi,100sht	($599)$649
BJC 820 Color,240cps,4ppm,1MB.	($1615)$1635

OKIDATA

OL 380	($219)
OL400e/410e laser, 4ppm	($525)$539/($687)
OL810, 8ppm, 300dpi	($955)$964
OL830 Plus, 8ppm w/ 2MB post script	$1189
OKI ML184T dot matrix, rugged industrial	$229
OKI ML320 320cps 9pin/ML520	$315/$392
OKI ML590/ML591 24 pin, 64K	$460/($599)

PANASONIC

KX-P2123/KX-P2624	$255/$420
KX-P2124, N-Carr, 320cps, 360dpi, 12fnts	$335
KX-P1624, W-Carr, 192cps, 360dpi, 14fnts	$415
KX-P4410,5ppm,300dpi,28fnts,512k	$599

CITIZEN

GSX145/GSX200/GSX220	($359/$169/$178)
GSX230 24 pin.8 fonts, 270cps	$249
(color option for Citizen 80 col printers	*$45)*
GSX240 24 pin 300cps, 13 fonts	$315
Notebooks CTZPN48/CTZNP-IBM	$284/326

HEWLETT PACKARD

Deskjet 500 Inkjet300dpi,120cps,16k	$308
Deskjet 500C Color 300dpi,167cps 16k	$409
Deskjet 550C Color,3ppm,300dpi,80k	$605
Deskjet 1200C Color,300dpi2MB	$(1375)1433
HP4/4P/4Si/4L	($1395/975/2995/675)
4M/4ML/4MP/4SiX	($1995/$1045/$1430/4550)

NEC

Pinwriter3300 24pin wide,360dpi,80K	$353
Pinwriter6200 24pin narrow,360dpi,80k	$442
Pinwriter9300 24pin wide.360dpi 333draft	$940
Silentwriter superscript610,6ppm,256k	$633
Silentwriter95FX built-in fax,2MB	($1199)$1221
Silentwriter1097 600dpi,7mb	($1505)1533

FUJITSU

10 Laser,10ppm,1mb 14fonts	$840
10W Laser,10ppm,2mb,35fonts	$952

We take orders for bulk quantities of printer supplies at wholesale prices.

MEMORIES, MATH-COs & CPUs

MEMORIES for IBMs

SIMMs

256 x 9 (3 chip)-70NS	$13
1M x 9 (3 chip)-70 Major brand	$42
1M x 9 (3 chip)-70NS mixed brand	$40
1M x 9 (9 chip)-70NSMajor brand	$45
4M x 9 (3 chip)-70	$150
4 x 9 (9 chip)-70NS	$160
1M x 9 (3 chip)-60 Major brand	$44
4 x 9 (9 chip)-60NS	$164

ESIMMs(72 Pin)

256x36-70NS	$60
512x36-70NS	$98
1x36-70NS	$158
2x36-70NS	$325
4x36-70NS	$650
1x36-60NS	$164
2x36-60NS	$335
4x36-60NS	$665

SIPPS

256x9 (3 chip)-70NS	$14
1x9 (3 chip)-70NS	$44
1x9 (3 chip)-60NS	$47

DRAMs

1x1-70/80NS	$5.75/5.25
256x1-70/80NS	$1.75/1.60
256x4-70/60NS	$6.00/6.50

MEMORIES for MACs

MACINTOSH

1x2chip-70/80NS	$40/35
1x8chip 70/80NS	$43/39
2x8chip 70/80	$89/85
4x8chip-60/70/80NS	$147/140/135
16x8chip-70NS	CALL

APPLE UPGRADES

Centres & Quadra 600 series

256x32-70NS	$39
512x32-70NS	$78
1x32-70/80NS	$136/133
2x32-70NS	$278
4x32-70NS	$510
8x32-70NS	$1175

QUADRA 800 SERIES

512x32-60NS	$78
1x32-60NS	$137
2x32-60NS	$275
4x32-60NS	$645
8x32-60NS	$1285

POWER-BOOK SERIES

Please call for latest pricing

CACHE RAMs

32x8-20	$6.90
64x4-20	$7.50
8x8-20	$3.70
16x4-20	$3.85
64x1-20	$6.70
128x8-25	$38
32x8-15	$7.90
64x4-15	$9.50
8x8-15	$4.10
16x4-15	$4.75
64x1-15	$8.45
128x8-25	$47

CPUs & CPU FANS

INTEL

386 DX33	$55
486 DX 33	$270
486 DX 50	$410
486 DX2 50	$290
486 DX2 66	$449
Pentium 60MHz	$860
Pentium 66MHz	$1190

AMD

386 DX 33/40	$47/48
486 DX 40	$250
486 DX2 50	$240
486 DX2 66	$400

CYRIX/TI

486 DLC 33/40	$70/75

CPU Fans

486 heat sink and fan	$8.95
Pentium heat sink and fan	$15.50

MATH-COPROCESSORS

INTEL

80387 SX 16/20/25	$45/64/75
80387 DX 16/20/25/33	$35/40/45/80

Overdrives - call for latest prices

IIT

3C87SX-16/20/25	$39
3C87SX-33	$39
3C87DX-25/33/40	$39

CYRIX

83S87SX 25	$39
83S87SX 33	$39
83D87-33	$41
83D87-40	$48

WEITEK

4167-25	$265
4167-33	$425

LASER EXT. MEMORIES

HEWLETT-PACKARD

HP IIP, IIP+,III,IIID,IIIP	1/2/3/4MB.	$75/114/155195
HP II, IID	2/4MB	$124/199
HP IIISI	1/4MB	$76/204
HP IV	4/8MB	$165/365
Deskjet 500, 500C, 550C	256K	$88

PANASONIC

KXP 4410/20/30	1/2/3/4MB	$98/148/175/215
KXP 4450 1MB		$137
KXP 4455	2MB	$164

OKIDATA

OKI 400	1/2MB	$98/119
OKI 800/820	2/4MB	$123/193
OKI 810	1/2MB	$111/189

EPSON

Epson 6000	2/4MB	$134/205
Epson 4000/8000	1/4MB	$131/216
Epson 7000	2/3MB	$$125/175
Action laser II	2/3/4/5MB	$125/145/187/218

Special Terms and Conditions for this Section: CPU and Memory prices are changed on a daily basis; please call for the latest prices. These products when bought without systems may come with a shorter warranty - please enquire. We do not stock many of the above products - please call for availability.

SOFTWARES

For Networking, Communications, Tape Storage Drivers, Networking Drivers, Multi-Media and Speciality Softwares also look in the corresponding sections.

UTILITIES

Norton Utilities V 7.0/Anti-Virus v2.1	$116/89
QEMM 386 V7.0	$69
AfterDark V2.0 WIN	$29
PC Tools V 8.0A	$57
Auto-Doubler/Disk-Doubler	$68/61
LapLink V5.0 FOR NETWARE	$74
MickyMouse/StarTrek Screen Saver	$39

DESKTOP PUBLISHING & GRAPHICS

Corel Draw V4.0/UPGRADE	$383/218
Pagemaker/WIN V5.0	$554
Harvard Graphics For Windows	$248
Norton Desktop WIN V2.2	$115
Micrographx Graphics Works	$158

DATABASES

Accesss for Windows	$145
CA-Clipper V5.2	$512
DBASE IV V2.0	$513
FoxPro For Win/DOS 2.5 Upgrade	$300/305
FoxPro LAN	$call
Paradox V4.0/WIN	$524/145
Q & A 4.0	$243
Superbase 2.0 WIN	$345
LOTUS SMARTSUITE	$448
Gupta SQL router/SQL server	$166
Gupta SQL for DOS	$2597
Gupta SQL gateway for netware	$3252

ACCOUNTING

CA-Accpac BPI Integrated	$148
CA-Acc. Simply Accounting DOS	$79
DAC Easy Accounting/Payroll 4.3	$94
Works for WIN 2.0	$129
MS Project 3.0 for WIN	$425

SPREADSHEETS

Improv	$99
LOTUS WORK V3.0	$99
MS Excel V5.0	$292
MS Works for WIN	$123
Quattro Pro V 5.0 WIN/DOS	$54

WORD PROCESSING AND GRAPHICS

AMI Pro 3.1	$240
Grammatik	$73
Professional Write V 2.2	$159
MS Word 6.0 for DOS/WIN	$305/299
Word Perfect for DOS/WIN	$119/294
WordStar 7.0	$264

COMMUNICATIONS

Procomm Plus 2.01/WIN	$70 /97
WinFax Pro V 3.0 for WIN	$99
Norton PC Anywhere 4.5 Host/Rem	$65/86
CrossTalk for WIN	$129

PROGRAMMING LANGUAGES & OPERATING SYSTEMS

M.S. DOS 6.2/UPGRADE	$48
M.S. Windows V 3.1	$63
DESQView /x V1.1	$ 163
Windows NT 3.1 /UPGRADE	$314/278

ACCPAC plus AUTHORIZED DEALER

AT ASA... ...WE DELIVER

NATIONAL: 1-800-REAL-PCs

SILICON VALLEY: 1-408-PCs-FOR-U

COMMUNICATIONS

FAX-MODEMs

PONY 902Z 96/24 Fax (Send)/Mod Int	$29
PONY 992Z 96/24 Fax/Modem	$44
PONY 992NZ 96/24 F/M, v.42 bis Enh	$63
PONY 1414IZ 14.4 F/M,.32/.42 w/Bitfax Int.	$115
PONY 1414IG 14.4 F/M .32/.42 w/WinfaxExt.	$129
PONY 992PZ Pocket 96/24 F/M,.32/.42	$79
PONY 1414PZ Pocket 144 F/M, v.32, v.42	$189
PONY 992MG PCMCIA 96/24 F/M v. 42	$125
PONY 1414MG PCMCIA144/144 F/M v.42	$245

AT&T Paradyne

DataPort 14.4 Fax V.32bis External	$175
Comsphere 19.2/14.4 Fax V.42bis Int	$565
Comsphere 19.2/14.4 Fax v 42bis Ext	$675
Keep in Touch PCMCIA 14.4 S/R Internal	$299

US ROBOTICS

9600 Sprtstr Modm V.32 V.42bis I/E	$125/139
9600 Sport Mod/fax V.32 V.42bis I/E	$134/149
14,4 Sport Mod V.32bis V.42bis I/E	$139/159
14,4 Sport Mod/Fax V.32b V.42b I/E	$145/165
14,4 Mac&FAX Ext. Mod/fax	$195
14,400 HST Courier Dual V.32bis	$759
Modem Sharing Single/Dual Kit	$495/889
World Port PCMCIA 14.4 Mod/fax Int	$309

INTEL

14.4 Fax/Modem Winfax Int./Ext	$149/174
Satisfaction 100/200/300Fax Int	$115/219/229
Satisfaction 400 14.4 S/RFax Int/Ext	$279/329
96/24 PCMCIA Internal	$199
96/96 PCMCIA S/R Internal	$259
14.4 PCMCIA S/R Internal	$299
Net SatisFAXtion v2.5 20 User	$619
Wireless Modem for Lan Microsoft mail	$659
Wireless Modem for Lan based server	$699

NATIONAL SEMI-CONDUCTOR

TYIN2000 Fax,Mod,Answer M/C,Audio Play	$125

THE COMPLETE PC

Communtr EZ Modem/Voice/Mail.Int/Ext	$85/109

ZYXEL

U-1496B 16.8/14,4 VoiceFax SW,S/R Int	$298
U-1496B+19.2/14,4 Voice Fax SW,S/R Int	$419
U-1496E 16.8/14.4 VFax SW,S/R LED Ext	$295
U-1496E+ 19.2/14.4VFaxSW,S/R LED Ext	$415
U-1496+ 19.2/14.4VFaxSW,S/R LCD Ext	$619
U-1496+19.2/14.4 S/R LCD MAC Ext	$659
U-1496E+ 19.2/14.4 S/R LED MAC Ext	$429

MOTOROLA........................$CALL

PRACTICAL PERIPHERALS

14.4 Fax/Modem S/R Internal	$177
14.4 Fax/Modem S/R External	$179

WHITE PAPER FAX

Converts any Laser Printer to a White Paper Fax Machine; avoid use of expensive ribbons. 20 page Memory. Ideal for heavy through-put.

.......$249

NETWORKING PRODUCTS & SERVICES

ETHERNET Adapters

NE 2000 Plus Comp 16bit Coax/10BT	$46
NE2000 Plus Comp Combo soft/hard config	$54
D-Link 16 Bit,SoftConfig. 10BT 1/6 Pack	$69/389
Intel EtherExpress 16/5pk/20pk	$104/479/1825
Intel EtherExpress 16 MCA/16 MCATP	$171
Intel EtherExpress 32 EISA Coax	$419
Intel EtherExpFlash/C/5pk/20pk	$127/509/1885
SMC Ethcard 16 UltCx/6 Pk/24pk	$109/574/2149
SMCEthcard+IA for MCA/TP	$179
SMCEthcard+Elite16 Cx/TP1/6/24	$119/615/2289
3 Com 503 Etherlink II 16 Bit Coax/TP	$159/169
3 Com 507 Ethlink II 16 Bit Coax/TP	$279/299
3 Com 509 Ethlink III Coax/5Pk	$119/505
3 Com 509 Ethlink III Combo/5/20.	$145/559/2199
3 Com 529/579 EISA Coax/10 BT/5pk	$229/959
EagleNE2000 Plus ./5Pk	$109/459
EagleEP2000 Plus/5pk	$92/405
Asante Etherpack2000+ Coax/10 BT	$129
Microdyne NE2000 Plus	$109/94
HP Ethertwist PCLink/6pk	$159/759

ARCNET

16bIT Star/bus Topology-combo	$65
4Port Passive Hub	$15
8 Port Coax stackable Active Hub	$139

ADAPTERS for TOKEN RING

Intel Token Express 16/4 ISA/MCA	$429/469
SMC Token Ring Adapter 16/4	$345
3 Com Tokenlink III 16/4 ISA/EISA	$455/635
IBM Token Ring Adap II	$289

POCKET LAN ADAPTERS for Notebooks

Advanced LAN Net Coax/10BT	$129
XIRCOM PE3 10B2/BT/BC	$274/274/299
XIRCOM 16/4 MBNS Tokennng w/Type 1Bnc.	$525
Xircom 16/4 Tokenring w/Type 3Coax	$525
DLINK DE-600 Softconfig. Coax/10BT	$172

PCMCIA ADADAPTERS for PalmTops

DLink DE-650 Coax/TP	$191/195
NATIONAL NE4100 COAX/10 BASE T	$214
XIRCOM Credit Card BNC/RJ-45	$269
XIRCOM Crdit Card Courso	$299
GVC Adapter	$137

CABLES & CONNECTORS

ETHERNET RG58 or RJ45 10BaseT

Readymade w/Connectors 10'/25'/50'	$4/8/12
Bulk 1000' SPOOL	$89
BNC 50 Ohm Terminators/Crimp-ON/Barrel.	$1.49
BNC T-Connectors	$1.99

We provide Networking
Installation and Maintenance
Services at good rates

Concentrators

CeLan 2-Port BNC/AVI Repeater	$235
Ce-Lan 4-Port BNC/AVI Repeater	$445
Allied Telesis 4-Port Repeater 2AVI,2BNC	$750
Allied Telesis,4-Port,8BNC,1AVI	$699
Allied Telesis,8 -Port,8 BNC,1AVI	$785
Allied Telesis-3008 Multi-port 8BNC,1AVI	$1189

Hubs

GVC 8 Port Hub	$179
CeLan 8 Port 10 BT w/BNC Cascade port	$199
CeLan16 Port 10BT w/AVI exp. port	$419
Advanced Lan products 8 Port	$429
Allied Telesis 12 Port RJ45,1AVI	$459
Asante 8 Port Hub,8RJ45,1BNC	$239
Asante 12 Ports,12tp,1BNC Thin,1 AVI Thick	$464
Asante 12 Ports-12TP,1BNC,1AVI	$834
Asante 1701 Smart 12Ports/SNMP	$1019
Microdyne 18 port 10 Base T5000 series	$619
D-Link 12 Port 10 BaseT	$489
D-link DE-1500 w/SNMP	$869
D-link K1032 32Port w/SNMP	$1199
Intel EE 12 Port 10 BT Hub Int w/Harmonica	$634
Intel EE 12 Port Hub Int EISA w/Harmonica	$699
SMC 8 Port Concentrator/12 Ports TP	$325/599
Synoptics 2800 A 16 Port w/AVI	$699
Synoptics 2803 16 Port w/AVI	$749
Synoptics 2804 16 Port w/Fiber Optics	$951
3 Com Link Builder 3C621 12 Port	$729
3 Com Link Builder TR 3C510180/82	$1751/3599

BRIDGES

Allied Telesis local Ethernet Bridge	$1645
3 Com 802C NetBuilder local Ethernet	$3399
3Com 750 NetBuilder Token Ring local	$4714
3Com 5823C NetBuilder Remote	$5319
Synoptics 3323S Ether Local w/AVI	$2353
Synoptics 3522 Token Ring	$5319
Novell Multiprotocol Router v 2.0	$669

PRINTER SHARING

Ethernet Print Servers

INTEL

Ethernet NetPort II for Coax,10BaseT	$385/379
Token Ring NetPort with DB9 Connector	$529
Netport ExpressXL Coax, UTP, 10BaseT	$624

(Conpact design for easy connectivity on on versions of Novell Netware. Comes with either 1S/1P or 2P ports)

OTHERS

Eagle NPE400 Parallel Port RJ-45/Coax (1P).	$364
XIRCOM Pocket Ethernet RJ45/Coax	$305/289

(Allows a Pocket LAN Adapter and a Parallel Printer to be attached to one LPT Port)

DEDICATED PRINTING BASED

Simple AUTO-SWITCHING

2 Computers to 1 printer Electronics	$24
4 Computers to 1 printer Electronics	$40
2 Computers to 1 Printer Bi-directional	$45
4 Computers to 1 Printer Bi-directional	$61
2/4 Auto-switches Uni-directional	$25 / 39

ADVANCED Printer SHARING

PrinterLink Par Line Extender Centr(w/50')	$69
PrinterLink Par Line Extender DB-25(w/50')	$69
ModularLink Transm DB-25(w/25')	$40
ModularLink Receiver Cen	$48
ModularLink Starter Kit	$106
PrinterNET Transm DB-25(w/25')	$69
PrinterNET Transm Centronics (w/25')	$69

NOVELL NETWARE

Ver 3.12 5/10/25/50 User	$649/1429/1895/2575
Ver 3.12 100/250 User	$3799/6440
Ver4.01 5/10 User	$819/1889
Ver4.01 25/50 User	$2675/3699
Ver4 .01 100/250 User	$5169/9240
Ver4 .01 500/1000 User	$14960/27195
Netware Lite v1.1 w/Win utilities	$69
Netware Lite v1.1 w/Win Util&Dr. DOS	$89
Dr. DOS 6.0	$75

(Novel's prices are changing frequently , so please call for the latest price changes)

EIECTRONIC MAIL

by CC:MAIL

Platform Packs: *(For connectivity on all LANs and across all LAN Bridges and Gateways. For support of any combination of Server-to-Server, LAN-to-LAN, and Remote Workstation-to-LAN messaging. One Platform pack is required for configuring any system)*

CC:Mail DOS 4.2/Win 2.0/Unix 1.0	$199/325/345
CC:Mail Macintosh 2.0/OS2 3.2	$329/345

User Packs: *(For adding users to the Platform Pack)*

CC:Mail 10/25/100 user v4.0	$229/549/2097

Remote Users: *(For connecting one remote user to any CC:Mail user net via Public Telephone Lines)*

CC:Mail Remote for DOS3.3 or Mac 2.01	$199

Gateways: *(For exchange of messages with other CC:Mail Post Offices on the same LAN or Bridged LANs)*

CC:Mail Router v4.0/Fax 1.2	$839/1298

PEER-TO-PEER NETWORKS

ASA

(2) copies of Novell lite, (2) NE 2000C Cards, Cables, Terminators etc	$249

WINDOWS FOR WORKGROUP

Add-On 1 user/2user kit w/Win3.1	$149/
Add-On 1 user w/o Win 3.1	$48
Multi-Unit 20 Node/Server	$734

ARTISOFT PRODUCTS

AE-2 Starter Kit v5.0 DOS/Win	$454/525
AE-3 Starter Kit v5.0 DOS/Win	$525/545
AE-2/3 16 BitAdapter w/lantastic soft	$192/234
Lantastic 2MBPS Kit 5.0	$339
Lantastic v5.0 AI DOS 1/6/12pk	$81/479/959
Lantastic v5.0 AI Win 1/6/12pk	$93/549/1099
Lantastic for TCP/IP	$199
Lantastic for MAC	$524
Noderunner 2000C/T 1/6pk	$174/975
Noderunner 2000M/TC for PS/2	$259

RAID-5 SERVER

SUB-SYSTEMS with dual hot-swapable power supplies

HARDWARE RAID: Mylex one channel Disk Array Controller and Novell NLM

2GB,3ea.1GB drives,10msec	$7800
3GB,4ea.1GB drives,10msec	$8950
4GB,5ea.1GB drives,10msec	$9995
5GB,3ea,2GB drives.,10msec	$11195
6GB,4ea,2GB ST Barracudas	$12995
8GB,5ea. 2GB ST Barracudas	$15495
1GB,Hot Spare	$1050
2GB,Barracuda Hot Spare	$2395
Add second channel module to split the drive packs	$895

SOFTWARE RAID: Subsystems includes NLM for Novell,Cd Rom, and Juke Box

3GB,4ea. 1GB drives,10msec	$5995
4GB,5ea.1GB drives,10msec	$6995
6GB,4ea.2GB drives,10msec	$9995
8GB,5ea.2GB drives,10msec	$11995
1GB Hot Spare	$1050
2GB Hot Spare	$1995

(For information on RAID products please call Paul Gulati at (408)496-6853 x 208 or 496-6953 for any sales person if Paul is unavailable)

UPS's

AMERICAN POWER

APC-BK250, 7 min, 386SX, ws	$99
APC-BK400, 10 min, 286, 386SX, ws	$159
APC-BK600, 15 min, 386 486 FS	$265
APC-BK900/1250, 15 min, Multi FSs.	$369/509
Power Doctor/Call UPS	$65/99

SMART UPS (ON-LINE/AUTO BACKUP)

APC 400, 10 min, 286, 386 FS/WS	$285
APC 600, 15 min, 386, 486 FS/WS	$345
APC 900, 15 min CAD/CAM WS/FS	$545
APC 1250, 15 min, Multiple FSs	$675
APC 2000, 20 min, Mini Computers	$1115
Matrix UPS 3000 VA, Multi-server	$2679
SERENA 5.25" 300VA UPS mounts in PC.	$call

INTERFACE KITS/SMART MONITORING

Power Chute SCO Xenix	$84
Power Chute Plus for Novell/Unix,Xen.	$72/115
UPS Monitoring Board for Novell	$69

ＡＳＡコンピュータ

【日本人のお客様へご挨拶】

ＡＳＡコンピューターは日本人のお客様を歓迎致します。ＡＳＡでは６，０００以上ものＡＳＡブランド製品又はＯＥＭビジネスによるコンピューター製品を取り揃えお客様のオーダーにより３日以内に全米各地どこへでもご注文の品を発送致しております。ご質問あるいはご注文がございましたらお気軽にカメロン（インターナショナルセールス＆マーケティング副社長）までお電話ください。

私達は日本のお客様に肌目細くサービスを提供しています。今後ともＡＳＡをどうぞよろしくお願い致します。

◆◆◆募集中◆◆◆

この度ＡＳＡコンピューターでは日本においてＡＳＡコンピューターを販売してくださる方を募集しています。ご希望の方又は興味のおもちの方は、カメロンまお電話ください。お待ちしています。

☎ （４０８）９８８−１２８０

FAX （４０８）９８８−０３５９

Translated by Taku Fujita

MAIN BRANCH

ASA COMPUTERS, INC.

2354 Calle Del Mundo
Santa Clara, CA 95054

National: (800) REAL - PCs
Local: (408) PCs - FOR - U
Fax: (408) 988-0359

Hours: M to F 9AM - 6:30PM
Sat: 10AM - 4PM

PLEASANT HILL, CA

STI COMPUTERS

SandalWood Center
609 Gregory LN # 110
Tel: [510] 256-9938
Fax: [510] 256-9983

INDIANAPOLIS, IN

THE COMPUTER CENTER

5324 W. 38th Street
Indianapolis, IN 46254
Tel: [317] 291-4599
Fax: [317] 291-1482

VOLUME ORDERS

RESELLER/VAR PRICING
(408) 496 - 6953

ACADEMIC PRICING
(408) 496 - 6853 Ex 211

DEALERSHIP PROGRAMS
(408) 496 - 6853 Ex 222

SALES REPRESENTATION
(408) 496 - 6853 Ex 204

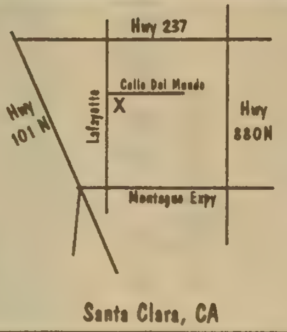
Each Store/Rep is an independent entity and is responsible for its own liabilities.

Coporate Field Sales

Jeff Brooks: (408) 986 - 1622
Harry Reynolds: (408) 866 - 1428
Robert Correa: (415) 897 - 2084
Will Farrish: (707) 575 - 1730
Kamran Haider: (408) 988 - 1280
AIKA (AZ): (602) 443 - 3618
ASA (NJ): (717) 854 - 7473

Please Call for Systems/Networking with On-Site Services.

MAIN BR. LOCATION



TERMS AND CONDITIONS

COD, FOB Santa Clara, CA. Credit terms are available on approval. Manufacturer's warranty on parts varies. Three years limited warranty on systems assembly labor only. Prices are subject to change. Prices in () or marked with a "*" are on cash basis only. Prices marked with "**" are clearance items & available while quantities last; regular prices for these items may be different.

Please call to check if we sell an item that may not be listed in this advertisement. We operate on Just-In-Time Inventory on many specialized items advertized here; please call regarding lead-time on these items. Not Responsible for Typographical Errors.

Please refer to the ASA Catalog for a full listing of the Terms and Conditions.

THE BEST PRICE IN TOWN!

486DX2-66MHz 128K Cache

w/INTEL CPU $645
w/AMD CPU $595

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 128K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$605
486-50MHz w/128K Cache

Intel 80486-50MHz CPU

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 128K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$465
486-33MHz w/128K Cache

Intel 80486-33MHz CPU

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 128K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$285
486SX-25MHz

Intel 80486SX-25MHz CP

- 1MB Expandable to 32MB on Boar
- 8K Internal Cache
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supp
- 101 Enhanced Keyboard

486SX-33MHz $310

Optional for 486 Systems

VESA Local Bus	Add $10
AIR VESA Local Bus Motherboard	Add $50
VESA/EISA Motherboard	Add $120
VESA SVGA Card w/1MB	**Add $7**
Orchid Fahrenheit VLB w/1M	**Add $14**
VESA IDE Card	**Add $2**

OPTIONAL w/system purchase

14" Mono Monitor & Card	$95
Super VGA Monitor (1024x768 0.39) w/SVGA Card 512K	$225
Super VGA Monitor (1024x768 0.28) w/SVGA Card 512K	$25
Non-Interlaced SVGA Monitor (1024x768 0.28) w/1MB Card	$29

586 Pentium 60MHz VESA
$1450

- 1MB Expandable to 128MB
- 512K Cache
- 3 VESA Local Bus slot
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop Case w/Power Supply
- 101 Enhanced Keyboard

W/PCI Motherboard $1595

NOTEBOOK

- 5.5lbs
- 4MB RAM
- 1.44MB Floppy Drive
- 120MB Hard Disk
- Serial, Parallel Port
- Built-in Trackball

486SX-25MHz	$1450
486SX-33MHz	$1480
486DX-33MHz	$1615
486DX2-66MHz	$1795

NOVELL

Sales...
Custom Design Service...
Installation and Maintenance...
Extended Software Support...

Available through
STEPFORD
(415) 553-3837

MULTIMEDIA

CD ROMS

Mitsumi MPC CD-ROM • AT Bus 350ms access time, 150kb transfer rate	$135
Mitsumi Double Speed • 250ms access time, 300kb transfer rate	$185
Panasonic Double Speed • 320ms access time, 300kb transfer rate	$185
Toshiba XM-3401 • SCSI w/200ms, 330kb transfer rate	$345
NEC 3Xi Triple Speed	$485

SOUND CARDS

Sound Blaster Pro Deluxe	$95
Sound Blaster 16	$125
Diamond Sonic 16 Bit Sound Card	$99
Sound Blaster 16 SCSI-2	$190
Spectrum 16 Bit SCSI Sound Card	$135

CREATIVE LABS UPGRADE KITS

Discovery CD 16-Bit $430
- Sound Blaster 16
- Speakers
- Double Speed CD-ROM
- 5 software included

Discovery CD 8-Bit $365
- Sound Blaster Pro Deluxe
- Speakers
- Double Speed CD-ROM
- 4 software included

BELMONT SYSTEMS INC.
(Belmont Computer Products)

1555 Industrial Road, San Carlos CA 94070

(415) 598-9058

FAX (415) 598-0186
Store Hours: M-F 9-6
Sat. 10-3

PRICE IS NOT ALL WE OFFER:

BEST QUALITY • STRONGEST SUPPORT STAFF • 7 YEARS BUSINESS EXPERIENCE

$330
486SLC2-50MHz
- IBM 486SLC2 CPU w/16K Cache
- Motherboard manufactured in the USA by IBM
- 1 MB RAM expandable to 16MB
- 1.2 or 1.44MB Floppy Drive
- 1.1 Interleave HD/FD Controller
- Tower or Desktop Case w/power supply
- 101 Enhanced Keyboard

486SLC2-50MHz VESA w/64K Cache . $395
486SLC2-66MHz VESA w/64K Cache . $440

486-40MHz w/128K Cache

w/AMD 486-40MHz CPU .. $450
w/Cyrix CPU, Math Chip . $320

- 1MB RAM Expandable to 32 MB
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop Case
- 101 Enhanced Keyboard

$245
386-40MHz w/128K Cache
- 1MB Expandable to 32MB on Board
- 128K Static Cache Memory
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Socket for 80387
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$220
386SX-33MHz
- 1MB Expandable to 16MB on Board
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1.1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

• 120MB	$150	• 250MB	$215
• 170MB	$180	• 340MB	$255
• 212MB	$195	• 420MB	$300
		• 540MB	$420

Keyboards

Mitsumi 101 Key	$29
Keytronic 101 Key	35
Maxiswitch 101 Key	35

Floppy Drives

TEAC/Epson 1.2MB	$55
TEAC/Epson 1.44MB 3.5"	45

Hard Disks

Maxtor 7131A 130MB 15ms	$175
Conner 170MB	185
Western Digital 210MB	200
Maxtor 210MB	200
Conner 210MB	200
Conner 250MB	220
Maxtor 340MB	260
Western Digital 340MB	260
Conner 340MB	260
Conner 420MB	325
Conner 540MB	430
Fujitsu 1.2GB SCSI II 8.5ms	795
Fujitsu 2.4GB SCSI II	1495

Modems

2400 Baud (Int)	$30
2400 Baud (Ext)	50
Fax Modem (9600 Fax, 2400 Modem)	45
14,400 Modem, 14,400 Fax	115

Interface Cards

Mono Graphic Card	$15
VGA Card (16 Bit 800x600)	30
OAK SVGA (1024x768 512K)	40
Trident VGA w/1M RAM	65
Orchid Fahrenheit (1280x1024) w/1MB VRAM	130
Orchid Fahrenheit VLB w/1MB	145
Orchid Celsius w/1MB/2M	150/205
ATI Ultra Pro VLB 2MB	305
Diamond SpeedStar Pro VLB	105
Diamond Stealth 24 VLB	145
Diamond Stealth Pro 1M/2M	240/310
Diamond Viper w/2MB	355
AT M I/O (2S,1P,1G)	15
IDE Card w/cable	15
Promise IDE VESA Cache Controller	125
Future Domain SCSI Card	75
Adaptec SCSI 1542C	175
Adaptec 2742 EISA SCSI	305
Adaptec 2842 VESA SCSI	285

Monitors

14" Flat Screen	$95
Super VGA (1024x768) .39	195
Super VGA (1024x768) .28	225
Non-Interlaced SVGA Monitor	240
Viewsonic 6	285
Viewsonic 7	790
Viewsonic 15E	385
Viewsonic 15	435
Viewsonic 17	950
NEC 3V	535
Nanao 550i-w	1050

Motherboards

386SX-33MHz	$75
386-40MHz 128K Cache	105
486SX-25MHz	155
486-33MHz w/128K Cache	340
486-50MHz w/128K Cache	480
486DX2-66MHz w/128K Cache	530
IBM 486SLC2-50MHz	195
IBM 486SLC2-50MHz VESA	240
IBM 486SLC2-66MHz VESA	285

Miscellaneous

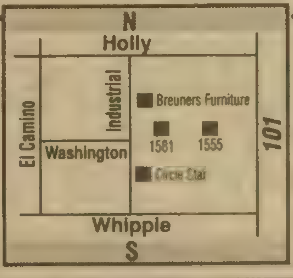
387SX	$40
387-25/33/40	50
150W (XT) Power Supply	40
230W Power Supply	48
Logitech Mouse Man	50
Logi Trackman	75
Microsoft Serial/Bus	35/55
DFI Mouse (3 Button, Microsoft Comp.)	15
Mini Vertical Case w/PS	55
Mid Mini Vertical Case w/PS	75
Full Vertical Case w/PS	95
Colorado 120MB Tape Backup	99
Colorado 250MB Tape Backup	155
Colorado Tracker 250MB	335
16 Bit Ethernet Card	69
WD SMC Elite Ethernet 16 Bit	125
RAM DIP / SIPP/ SIMM	Call

TERMS & CONDITIONS:
- Company, Government PO's Welcome
- UPS Shipping Daily

All Prices and contents subject to change w/o notice.
All brand names are registered trademarks.
Co. Term on credit approval.

Welcome to visit our showroom! Computers, Monitors and printers are now on display!
Prices Reflect Cash Discount

Located in the
San Carlos Commerce
Center Office Park



MICRO MARKETPLACE

WHY BUY FROM ANYONE ELSE...WHEN YOU CAN BUY FROM THE BEST—

UNIVERSAL COMPUTER PRODUCTS

FREE mouse pad with mouse purchase

1 YEAR PARTS/
1 YEAR LABOR
WARRANTY
ON ALL
SYSTEMS

486 Computer System

- 4MB RAM
- 1.2MB & 1.44MB Floppy Drives
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Keyboard
- 250MB IDE Hard Drive
- SVGA Card w/1MB
- 14" SVGA Monitor (.28 dp)
- Mid-Tower Case
- MS-DOS 6.0

DX-33	$1300
DX-50	$1500
DX2-66	$1550

386 Computer System

- 4MB RAM
- 1.2MB & 1.44MB Floppy Drives
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Keyboard
- 120MB IDE Hard Drive
- SVGA Card
- 14" SVGA Monitor
- Mini-Tower or Desktop Case
- MS-DOS 6.0

DX-33 or DX-40
$1025

SX-25 or SX-33
$900

REPAIR & UPGRADE SERVICES

ON IBM & IBM COMPATIBLES

- Full Service
- No Appointment Necessary
- Same Day Turnaround
- Competitive Rates
- Experienced Technician For Over 7 Years
- Courteous Service

ADD ON BOARDS

AT I/O Card 2S,1P,1G	$20
Mono Graphic/Printer	$20
IDE Dual HD/FD Cont	$20
SCSI 1:1 HD/FD Cont	$99
VGA Card w/256K	$40
Trident SVGA w/1MB	$70
C-Logic VLB SVGA w/1MB	$99
Everex RAM 3000 Expansion Card	$90
Everex RAM 10K Expansion Card	$150

CASES AND POWER SUPPLY

Baby AT w/200W Power	$70
Baby Tower w/200W Power	$70
Mid Tower w/220W Power	$90
Full Tower w/250W Power	$160
200W (XT) Power Supply	$60
200W Power Supply	$60
230W Power Supply	$60

DRIVES

Frame for 3.5" Hard & Floppy Drive	$5
CONNER	
CP-30254 250MB IDE	$240
CP-30104 120MB 19ms IDE	$190
CP-30204 200MB 16ms IDE	$225
MAXTOR	
213MB 15ms SCSI HD	$275
245MB 15ms SCSI HD	$300
LXT-213A 212MB 16ms IDE	$225
LXT-7245A 245MB IDE	$245
LXT-7345A 345MB IDE	$299
TEAC	
1.2MB 5.25"	$56
1.44MB 3.5"	$56

MODEMS

Everex 2400 Baud Internal	$75
Everex 2400 Baud Int. w/MNP5	$150
Everex 2400 Baud External	$175
Everex 2400 Baud Ext. w/MNP5	$195
US ROBOTIC 14,400 Int. Fax Modem	$159
US ROBOTIC 14,400 Ext. Fax Modem	$199
US ROBOTIC 14,400 Int. Modem	$149
US ROBOTIC 14,400 Ext. Modem	$185

CD-ROM

Bundle Specials

Panasonic 562 AT BUS
- Sound Blaster Pro Deluxe
- Kings Quest
- Mother Goose
- Family Choice
- Dictionary of the Living World
- Speakers

$399

Sony CDU31A-02
- Sound Blaster Pro Deluxe
- Battle Chess
- Mother Goose
- US Atlas & Automap
- Mavis Beacon Teaches Typing
- Speakers

$350

Creative Lab Discovery CD16	$460
Creative Lab Discovery CD8	$395
Internal CD ROM Drive	$220/175
Sound Blaster Card (8-Bit)	$79
Sound Blaster Pro (16-Bit) Deluxe.	$139

INTEL MATH CO-PROCESSORS

387 SX-16	$115
387DX-20	$99
387 DX-25	$99
387 DX-33	$99

MEMORY CHIPS

DRAM	
1MBx1-8	$5.50
256K-8/10	$1.25
256Kx4-8	$5.50
64K-10	$1
SIMM	
4MB x9-7	CALL
1MBx9-7/8	CALL
1MBx3-7/8	CALL
SIPP	
1MBx9-8	CALL
256Kx9-8	CALL

MONITORS

14" Monochrome	$105
SVGA Monitor 1024x768 .28dp	$255
SVGA Monitor 1024x768 .39dp	$230
Relisys 14" SVGA Non-Int.	$290
Relisys 15" SVGA Non-Int.	$410
15" SVGA Monitor 1280x1024 NI	$375/$399
14" SVGA .28dp NI	$270

MOTHERBOARDS

386 SX 25MHz Motherboard	$110
386 DX 33MHz Motherboard	$150
386 DX 40MHz Motherboard	$160
486 DX2 66MHz Motherboard	$CALL
486 DX 33MHz Local Bus MB	$CALL
486 DX 33MHz Motherboard	$420
486 DX 50MHz Motherboard	$Call

PRINTERS

Citizen 190GX (9 Pin)	$175
Citizen GSX230 (24 Pin)	$249
Citizen GSX240 (24 Pin)	$299
Citizen Color Upgrade Kit	$49
Panasonic 2180 (9 Pin)	$169
Panasonic 2123 (24 Pin)	$239
Panasonic 2124 (24 Pin)	$319
Panasonic 4410 Laser	$520
Toner KX-P450	$39.95
Toner KX-P453	$35.95
Toner KX-P451	$39.95
HP 51604A	$11.95
HP 51608A	$19.95
HP 92261A	$11.95
HP 92275A	$63.95
HP 92295A	$79.95
HP 92298A	$105

TAPE BACKUP

Colorado 120MB/250MB	$159/179
External Kit for Colorado Drive	$110
Archive 250MB	$180

MOUSES

Trackball	$69
Logitech Serial Mouseman	$55
Microsoft Bus Mouse	$90
Microsoft Serial Mouse	$79
DEXXA Mouse w/Windows 3.1	$69
DEXXA Mouse	$27
Mouse Systems A3 Mouse for Mac	$50
Mouse Systems A3 Trackball for Mac	$50

PRINTER RIBBONS & DATA CARTRIDGES ARE AVAILABLE
COAX & TWISTED CABLES ARE AVAILABLE

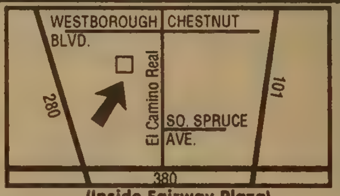
UNIVERSAL COMPUTER PRODUCTS

951 El Camino Real, South San Francisco, CA 94080
(415) 583-9736 Fax (415) 583-3457
Mon.-Fri.: 9am-6pm Sat: 10am-5pm

NO SURCHARGE
ON CREDIT CARDS

VISA MasterCard DISCOVER

Prices subject to change w/o notice • Not responsible for misprints



(Inside Fairway Plaza)

386DX-40 ISA

.Mb ISA w/128K Cache &CPU
.1 MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: Controller w/1p,2s,1g
.250 MB Hard Drive
.AT or Mini Case w/ P. S
.SVGA Video Card w/512K
.14" SVGA Monitor IN
.Chicony 101 Keyboard

$ 815

386DX-40 ISA

.Mb ISA w/128K Cache &CPU
.4MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: Controller w/1p,2s,1g
.250 MB Hard Drive
.AT or Mini Case w/ P. S
.SVGA Video Card w/1MB
.14" SVGA Monitor
.Chicony 101 Keyboard

$988

HARD DRIVES

250 MB	$224
340 MB	$259
540 MB	$459

GRAPHIC CARDS

TRIDENT 512K/1MB	$39/65
TRIDENT 1MEG VLB	$79
SPIDER	
VLB 1MB/2MB	$93/145
SPIDER VLB + 1MB/2	$105/162
BLACK WIDOW 1MB /VLB	$189
BLACK WIDOW 1MB ISA	$170
ORCHID	
FARENHEIT +1MB ISA/VLB	$139/146
FARENHEIT 1280 1MB (VLB)	$146
CELSIUS 1 MB (VLB)	$220
DIAMOND	
STEALTH 24 ISA/VLB	$155/165
STEALTH PRO VLB 2MB	$299

486 VLB

.MbVLBw/128K Cache&CPU
.4MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: VLB Cont. w/1p,2s,1g
.250 MB Hard Drive
.AT or Mini Case w/ P. S
.SVGA Trident VLB w/1MB
.14" SVGA Viewsonic 6E
.Chicony 101 Keyboard

486DX-33 : $ 1287
486DX-50 : $ 1420
486DX2-66: $ 1489

486 VLB

.MbVLBw/128K Cache&CPU
.4MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: VLB Cont. w/1p,2s,1g
.340 MB Hard Drive
.AT or Mini Case w/ P. S
.SVGA SPIDER VLB w/1MB
.14" SVGA Viewsonic 6E
.Keytronic 101 Keyboard

486DX-33 : $ 1345
486DX-50 : $ 1488
486DX2-66: $ 1555

CONTROLLER CARD

IDE:2FD,2HD:1P,2S,1G	$15
I/O W/1P,2S,1G	$12
PARALLEL CARD/MON	$12
IDE VLB/ 16550 CHIP	$28/$69
PROMISE	
DC200 IDE (UP TO 16MB)	$105
DC 2040 SCSI UP TO 16MB	$196
DC 4030 VLB UP TO 16MB	$145
ULTRASTOR	
UL14F ISA/SCSI32k Cache	$195
UL24F SCSI/EISA64k Cache	$360
UL34F SCSI/VLB32k Cache	$269

PRINTER

PANASONIC	
KX-P1123/2023	$170/199
KX-P1124/1624	$259/379
KX-2180/2123	$179/239
KX-2124/2624	$319/399

486VLB GENOA

.MbVLBw/256K Cache&CPU
.4MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: VLB Cont. w/1p,2s,1g
.340 MB Hard Drive
.AT or Mini Case w/P. S
.SVGA SPIDER VLB w/1MB
.15"(1280X1024) Mag 1564
.Chicony 101 Keyboard

486DX-33 : $ 1558
486DX-50 : $ 1715
486DX2-66: $ 1779

486 VLB NICE

.Mb EISA/VLBw/256K &CPU
.4MB Memory Installed
.Teac 1.2MB & 1.44MB Fd
.IDE: VLB Cont. w/1p,2s,1g
.340 MB Hard Drive
.Medium Tower Case w/P.S
.SVGA Orchid VLB w/1MB
.15"(1280X1024)Viewsonic15
.Keytronic 101 Keyboard

486DX-33 : $ 1737
486DX-50 : $ 1890
486DX2-66: $ 1950

KEYBOARDS

101KB ENHANCED KB	$18
MAXISWITCH KB	$29
KEYTRONIC KB	$29
FOCUS 2001	$39
FOCUS 7000(w/Trackball)	$49
FOCUS 9000	$62
OMNI 102/ULTRA	$69/89

FLOPPY DRIVES

1.2TEAC	$45
1.44TEAC	$38
DUAL(1.2&1.4)	$115
2.8MB	$85
MOUNTING KIT	$5

MOUSE

MOUSE PAD	$2
MICROSOFT MOUSE COMP	$13
LOGITECH SERIAL MOUSE	$49

MONITOR

MULTISCAN 14" .39Dp	$195
14".28Dp(1024X768)IN/NI	$239/250
15" .28Dp, (1280X1024)	$349
VIEWSONIC	
V4E:14".28dp IN	$265
V6E:14".28dp NI	$280
V15E/V15:15".28dP NI	$399/449
V17(17")/V20	$949/1629
NEC	
3FGE 15" .28dp	$594
4FGE 15" .28dp	$689
5FGE 17" .28dp	$1070
NANAO	
F340IW 15" .28dp(1024x768)	$515
F550I 17".28dp(1280X1024)	$965
F550IW 17".28dp(27-65khz)	$1070
T560I 17" .26dp(30-78khz)	$1549
F750I 21" .31dp(1600x1280)	$1933
F760IW 21" .31dp(27-78khz)	$2048
MAG InnoVision	
LX1564 15".28dp(1280X1024)	$425
MX15F 15".28dp(1280X1024)	$479
MX17F 17".26dp(1280X1024)	$860
SONY	
CPD-1430S 14" .25dp	$583
CPD-1730 17" .25dp	$995
CPD-2036S 20" .30dp	$1926

MULTIMEDIA

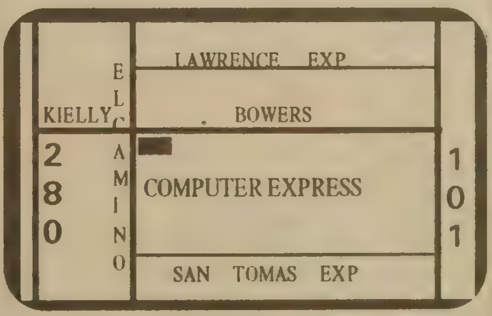
PRO AUDIO(SPECTRUM 16)	$149
PRO AUDIO STUDIO 16	$179
MITSUMI CD (350MS w/ CARD)	$149
TEAC CD -50 (250MS)	$299
TOSHIBACD 3401(200MS)	$338
DELUXE SPEAKER	$10
SCSI CABLE / AUDIO CABLE	$4

MISCELLANEOUS

2400 MODEM ZOLTRIX	$24
9600/2400 FAX/MODEM	$46
14.4/14.4 FAX/MODEM	$120
14.4/14.4 (US ROBOTICS)	$155
PRINTER EXTENSION CABLE	$5
MONITOR EXTENSION CABLE	$7
SURGE PROTECTOR	$17

CASE

MINI/MED W/LED&230W	$47/75
TOWER W/LED & 230 w	$89
230 WATTS POWER SUPPLY	$29
230 WATTS(UL)POWER SUPPLY	$35



COMPUTER EXPRESS

2725 EL CAMINO REAL SUITE 104
SANTA CLARA CA 95051

TEL 408-247-1996
FAX 408-247-1184
BUS HRS: MON-FRI
10:00-6:00

ONE YEAR WARRANTY PARTS & LABOR FOR SYSTEMS. PRICES & AVAILABILITY SUBJECT TO CHANGE W/O NOTICE. NOT RESPONSIBLE FOR TYPOS. SHIPPING, INSURANCE&COD CHARGES ARE EXTRA.

From Mac To (General) Magic

Macintosh Pioneers Try To Do It Again With Communication For Humans

By Mary Eisenhart

Photos: Susana Millman

Amid all the celebratory hoopla at January's Macworld Expo, members of the original Macintosh team unveiled the project they'd been working on for the last few years at a company improbably named General Magic.

In the late '80s, Marc Porat, now General Magic's chairman and CEO, came to Apple to study what might be the Next Big Thing after personal computing. Inspired by a vision of people connected to information, services, and each other wherever they were, he founded General Magic in 1990 after Apple decided not to pursue his version of the idea.

His cofounders were Bill Atkinson and Andy Hertzfeld, whose zeal about making technology accessible to non-nerds had not abated since their Mac days. And at the unveiling, they explained the company's two products: Telescript, a language designed as a standard for moving information in every conceivable digital format across the network, and Magic Cap, an operating system and interface for communication devices, which allows users to navigate and work in an environment full of real-world objects, from phones to banks.

While Magic Cap is currently being demonstrated on what's affectionately called a Bunny Box after the company's logo, this simple monochrome LCD box only hints at the capability of the underlying software to handle sound, animation, 32-bit color, and other necessities of the modern world. The first devices incorporating the technology, manufactured by various Magic Cap licensees, will appear in the marketplace later this year.

Unlike Apple with the Mac, General Magic will not sell its products directly to end-users, but rather license them to developers. It's a very different model from the Mac project, and, combined with the fact that General Magic is funded by several large multinational investors including Apple, AT&T, Matsushita, Philips, Motorola, and Sony, one that requires a lot more cooperation than a pirate project on Bandley Drive.

The General Magic team seems perfectly aware that it's entering a market that's not quite there yet, one that's already full of hopeful contenders and battered casualties. As in the old days, the courage of their convictions is unshaken. (General Magic, (415) 965-0400).

Joanna Hoffman:

"Our business model says that you start licensing, and you get a core of strategic partners together, and you work with them, be they competitors or not. It's a very difficult thing to do well. The model itself is quite modern, but implementing something like that takes quite a bit of doing."

The Iranian revolution having kept her away from a dig, **Joanna Hoffman** was an unemployed archeologist when Jef Raskin, original head of the Macintosh project, recruited her. "His perspective was that he should get people in the project that would make good users," she says now, as opposed to more people with technical expertise. Steve Jobs took over the project shortly thereafter and asked her if she knew about marketing; during the Mac's long gestation, she eventually wrote its first business and marketing plans, and put together the first user interface guidelines, among other projects.

Now vice president of marketing at General Magic, she recalls leaving Apple in 1985 during a period she calls "the beginning of the end of idealism." The particular last straw, she said, was when some corporate realpolitik dictated renaming the Lisa the Macintosh XL.

That was then, this is now. "If I had the temperament of me ten years ago," she says, "I would never have been able to survive at General Magic. You almost become disenchanted with the human race every day, and you have to get up the next day and continue with your enthusiasm and with your excitement and so on, because you still feel that what you're doing is worthwhile. That's what growing up means—you come to accept the weakness of other people around you and somehow manage to live in the world without killing yourself.

"In many ways I think Apple's still a very idealistic company. Once you have a vision in your DNA, it's very difficult to get rid of it, even if you get people who are pragmatic and not the kind of people who would fall prey to visionary ideals. I think being visionary is part of Apple's DNA, and they keep continuing that tradition."

A lot of people in this company came from Apple—did they bring their DNA with them?

If there's anything that General Magic has an ample supply of, that's vision. I really do believe the reason that so many people gravitated to General Magic from the old Apple crew is because Marc's vision was so compelling—an entire world of people that could communicate with each other, not just by telephone but through an integrated mechanism by which they can personalize their communication. Whether they're carrying little devices around with them or using personal computers or television or whatever else, they have one continuous experience which helps them communicate under any circumstances.

That was very compelling. The main way in which General Magic is different from Apple is that the business model is also quite visionary. Three years ago when we started thinking about it, there weren't many people aside from Microsoft and Adobe who were licensing, not just to one customer but to several. And to competing factions.

If you think about it, Microsoft did not become successful by openly licensing its software. The way Microsoft became successful was by getting into bed with IBM. You had to service one very demanding, very difficult customer, but one customer. And then, once IBM gave it the marketing kick, there was a clause in the contract that said Microsoft can license it, that there is no exclusive with IBM.

And that's when they started licensing to other people.

In our case, the business model says that you start licensing, and you get a core of strategic partners together, and you work with them, be they competitors or not.

It's a very difficult thing to do well. The model itself is quite modern, but implementing something like that takes quite a bit of doing.

It's different from the Mac, which was developed pretty independently.

The thing that was different, you're right, was that we had control. We thought Apple was big and bureaucratic, but we were a tiny little entity inside Apple, pretty insulated from the rest of Apple. And at that time Apple was not a terribly large company, and it wasn't terribly bureaucratic either.

So there was a great deal of control, and I think that that's one of the ways in which a young crew like that could be successful. Because we certainly were not mature enough in our behavior—or jaded enough, I should say—to really know how to handle opposing demands or contradictory input. To that extent, it was a very well suited environment for that cast of characters.

I think that ten years ago we wouldn't have been able to do it. There would have been a mass exodus of the Macintosh team had they been working in a General Magic environment.

In many ways this is the best of both worlds in the sense that we're a startup, we have a startup atmosphere, there's no politics, there's no bureaucracy. It's a bunch of enthusiastic people who are doing very well working on a set of technologies, and hopefully products, that they love.

And it's funded by huge companies with big impressive names and market clout and some of the best companies in the world.

That's the best of it.

The worst of all worlds is that each one of them thinks that they know best.

This is not going to be design by committee, we're not going to be pushed into things that we don't think are appropriate. Bill Atkinson is very good at this—he keeps reminding people that what we're doing is for the customer. It's not for your business plan, it's not based on what you think we should be doing, it's based on what will appeal to the customer, and how can we keep the customer satisfied and happy. Both Bill and Andy are extremely staunch in that regard, and we've been able to maintain a lot of integrity.

As vice president of marketing, who do you market to? Since you're not selling directly to the consumer, you've got different issues to deal with.

Until recently, we worked with engineering, defining the product. We're in between our licensees and engineering, trying to understand what path the product is going to take, from our facilities into their manufacturing organizations. We also do a lot of user testing.

The other things are classical marketing things—how do you position it, with respect to our primary customers, who are the licensees, and also the third-party developers, as well as in the eyes of the end-user? And in what way do we bring any of this into the consciousness of the user, since we don't touch the user directly? It's going to be a little logo on a Motorola device, or a Sony device or a Matsushita device or whatever. How do we get people to understand the spirit of the company and the spirit of the product?

That means working closely with our licensees, making sure they capture the spirit, making sure that they can communicate about it, in ways that do it justice. Because they have their own agendas, and some of them are competitors with each other.

The applicability of these platforms ranges anywhere from a conventional enterprise into these wild, crazy, futuristic things of electronic superhighways and electronic shopping in markets and so on.

When you have technology that spans such a broad spectrum, you have to work very hard at trying to figure out where you target on that spectrum. Where do you go?

And we have chosen kind of the balls-to-the-wall approach, to try to aim for the glorious dream, as opposed to trying to go back into the business-clothes environment and innovate in that domain. Not that we don't want to bring our technologies into the enterprise, we do, but we have chosen as our first and primary focus public services and information providers, as well as consumers at large and customers at large, as opposed to the business.

I think we'll have the same bumps we had with the Macintosh, in different ways—bumps that not just the Macintosh but any new technology has. Inevitably, we'll learn from the market and we'll improve, as long as we have the staying power and the longevity to do it.

That was another good thing about Apple, it had the cash cow in the Apple

See The Future At INFINITI Systems Today!

Infiniti Advance Notebook

486DX2-50 /120M HDD /4M RAM

$1749 Mono

Infiniti Systems Notebooks

Infiniti's notebooks have been integrated with today's advanced technology as well as an elegant design. This allows for the perfect balance of form and function. Why bother with the hassles of managing a desktop and a notebook, when a single Infiniti notebook can do it all!

Processor

Every Infiniti notebook can utilizie the entire line of Intel 486 family of processors as well as AMD's 486 processors for a wide range of system configurations.

Memory

A wide range of memory configurations with a maximum of up to 32MB.

Storage

3.4" 1.44 FDD
40 TO 540MB HDD options

DISPLAY

Monochrome: 8.4" VGA edgelit LCD
Dual Scan: 9.5" viewable diagonal
Active color: 9.5" viewable diagonal
TFT VGA active matrix color LCD
16-bit video interface; 180° degree lid tilt
Reverse video option

MOUSE

The Infiniti notebook is designed with new "Mouse-Key" or "J" mouse keyboard. The "J" mouse provides 360 degrees of cursor movement. The greater the pressure on the key, the faster the cursor moves!

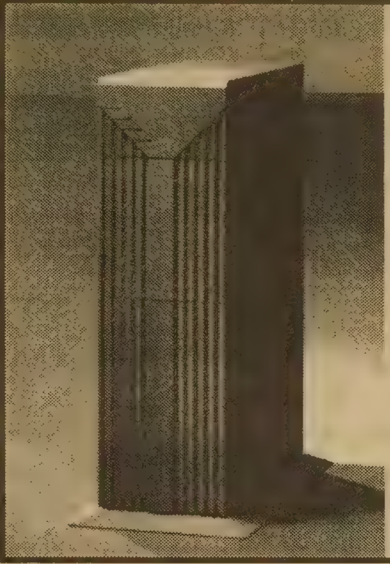
I/O

Two serial, one parallel port, one exteranl FDD port, VGA monitor port, PS/2 keybord port and mouse port for Basic Model. One serial, one parallel port, VGA monitor port, PS/2 keyboard, mouse, and 200-pin docking station connector for Advanced Model. PCMCIA type II, III & IV available.

POWER

NiCd is the standard battery
Ni-MH for extended battery life
Zinc Air for the ultimate in battery life
Average expected battery life is 2.5-6* hours
AC adapter 110/220V 50Hz/60Hz
Full line of options available.

* Battery life depends on applications being used, power management features selected and optional devices connected to the notebook.



586 PENTIUM SYSTEM

- Full Tower UL case with 250W power supply
- Intel 60MHz Pentium processor
- 16K internal cache
- 512KB external cache
- 16MB 72-pin RAM (Max. 128MB)
- 877 MB SCSI hard drive
- 1.2MB & 1.44MB floppy drives
- 2 Serial/1 Parallel/ 1 Game ports
- Promise DC2040 SCSI controller
- Cirrus Logic VL-Bus 1MB Video card (Max. 2MB)
- 101 Mitsumi keyboard
- 15" SVGA 0.28 Non-Interlaced Digital flat screen monitor.

(Best for Fileserver)

$ 3499

Intel Premiere PCI LPX System

(Whole System Made by INTEL)

Include:

Intel 586 Pentium Microprocessor
P-60 Mhz Clock Speed
8MB on Board (Expands to 128MB) 72-pin Sockets Only 70ns or faster
256 K Cache Memory Direct mapped, write-back
Build in IDE / IO Controller (2 Serial 1 Parallel 1 Mouse Port Compatible Support 2.88MB FDD)
Build in ATI Mach 32 SVGA Video Controller with 1MB (Expands to 2MB)
Support 1280 x 1024 - 256 Colors
1.44 3.5", FDD Drive (TEAC)
270M HDD
Two PCI Slot (PCI add-in card auto configurable)
Slim Desktop Chassis (External 1 x 3.5 & 2 x 5.25) & (Internal 1 x 3.5 Drive Bays) with 145 Watt Power Supply
Green energy saving
Cooling Fan accessory available for Pentium processor (Optional)
FCC Class B approved.

$ 2799

486 MOTHERBOARD SPECIALS

Motherboard + CPU Combo Specials	
486SLC-33MB	89.00
486DLC-40 ISA/128K w/math-co	183.00
486DLC-40 VLB/128K w/math-co	213.00
486DX-40 VLB/128K	329.00
486DX-40 VLB/256K	354.00
486DX2-50 VLB/128K	329.00
486DX2-50 VLB/256K	354.00
486DX2-66 VLB/128K	469.00
486DX2-66 VLB/256K	489.00
486DX-40 VLB Green PC/256K	379.00
486DX2-50 VLB Green PC/256K	379.00
486DX2-66 VLB Green PC/256K	509.00
486DX2-50 PCI/256K	462.00
486DX2-66 PCI/256K	610.00

CD ROM SPECIALS

Sony CDR-31A w/ controller & cables Dbl. Speed/490ms/300Kb	169.00
Sony CDR-33A w/ controller & cables Dbl. Speed/320ms/300Kb	189.00
Winstorm Sound Card Same card as ProSpectrum 16	115.00
Winstorm + NEC CD-ROM NEC 210 SCSI dbl. speed CD-ROM drive	299.00

All 486DX CPUs are by AMD. Please call for quotes on systems utilizing these specials on board+cpus.

LOCAL BUS SPECIALS

■ IDE WITH IO VL-BUS CONTROLLER Chipset: PROMISE & UMC,2 serial, 2 parallel, 1 games true 32-bit performance	22.50
■ CIRRUS LOGIC 5424 VL-BUS W/1MB VIDEO CARD	67.00
■ CIRRUS LOGIC 5428 VL-BUS W/1MB VIDEO CARD (2M upgradable)	87.00

OUTSTANDING S/VGA MONITOR SPECIALS

■ INFINITI 17" 1280 x 1024 .26mm DIGITAL On-Screen Display Settings True 72 Hz NI Monitor, Low Radition, Advance Microprocessor Control	699.00
■ INFINITI 15" FLAT SCREEN 1280x1024 NI MONITOR LCD Display Settings True 72 Hz NI Monitor, Mode, Setting display by LCD screen	369.00
■ 15" FLAT SCREEN BLACK 1280x1024 NI MONITOR MAC & IBM compatible	349.00

Infiniti Systems

4053 Clipper Ct. Fremont CA 94538
Tel: 510-252-9030 Fax:510-252-9033
Office hour: Mon through Fri 8:30AM to 6:30PM

MEMBER AEA American Electronics Association

Corporate PO's Welcome

Price subject to change without notice. Limited quantity on special items. Not responsible for type errors.

II to last it for a while. In our case, it would mean that our partners have the staying power, and I think they do. None of them are looking at it as an instant success.

So what kind of products do you expect to see initially? They won't all look like Bunny Boxes.

Hopefully at least one of them will.

I think what you will see is a great variation in the communication options they offer. It's a communicator, and therefore that's the area in which they will choose to differentiate themselves. Some will be wire line, others will be wireless, others will have one-way wires, two-way, all sorts of options for different kinds of communications.

One of my favorite products is not even mobile, it's stationary—at home I have a fax machine, my computer, I have an answering machine and a telephone, and I know that there are these products which integrate at least the telephone, the answering machine, and the fax. Well, wouldn't it be wonderful if your email was integrated into that too? So you have this one thing that does all your communication. I would love to see machines like that come out.

That's one that particularly appeals to me. I think that what will happen is as soon as the licensees ship their first-generation products, it's much easier for them to turn around and actually create a product like that. It's just pushing that first product out the door that is going to require the courage, and after that you create variations on the theme, and I don't know yet what variations they will choose.

Do you envision being on the set-top-cable boxes for interactive TV?

It's a vision that we really feel very close to, because that's the ultimate consumer vision—what's more consumer than television? Our technologies are completely appropriate; the difficulty is as a small company, where should we be playing in that area, and I think we haven't quite figured that out yet. And with whom.

Bill Atkinson, General Magic's chief scientist, wrote MacPaint and was the principal author of Hypercard at Apple. Of his current role, he says, "I think of myself as a customer advocate.

"I always step outside of the technology, outside of the narrow-sighted sort of self-delusion that our team, that any team, gets in when you're hustling on something. I stand over there and say, 'Okay, so I just recommended that my brother buy one of these with his own money. What's the experience like?' My commitment is that six months after somebody buys one of these, at least 75% of the people say, 'I'm glad I spent my money on it.' Instead of being the pusher of technology, I'm the pusher of people. I like people. I'm an advocate of people, not the advocate of any technology."

Is there a theme running through MacPaint and HyperCard and what General Magic is trying to do?

I think it's empowerment. It's much easier to provide tools for people that have passions about an area or creative ideas or specialized knowledge, to give them a tool to express themselves, than it is to take those people who have technical expertise, and try to teach them specialized knowledge or passion.

It's easier to take somebody with passion and release them with a new language or a new means of expression.

I think the essence of what I've been doing is making tools to empower people to their agenda. Not to mine. If I give someone a crescent wrench, a very valid use is to bop her brother over the head with it. That's empowerment [*laughs*]. That fundamentally comes from a belief that people are good, that giving more people more power brings good into the planet. And that people will use that power in ways that make the planet a better place.

There's also kind of a secondary theme that's going on about communication. MacPaint was a drawing tool that let people make pictures that they would basically print out and put on a wall or send to somebody. They would

Under The Hood:

Technical And Social Issues Of Software Design

Jim White, General Magic's vice president of communication engineering, was inspired by Adobe's PostScript language and its use of the printer as a computer, and wondered if the same principle couldn't be extended to networks. "It occurred to me," he says, "that you could conceivably make a network that was a computing environment, rather than a network that was just plumbing—put in bits here, they fall out there. What if the bits were smart, they were a program, and they could get inside the network and start controlling their own transport through a network?"

As people currently piling onto the Internet can attest, computer-based interaction winds up raising at least as many social issues as technical ones. With General Magic's appointed mission of making electronic communications more accessible to everyone come not only interface issues as represented in Magic Cap, but infrastructure issues governing the interactions of the network's users.

What issues arise when millions of people are dispatching their virtual emissaries all over the ether to spend money, share information, socialize? White explains the Telescript view.

There's a lot of talk about "agents"? What's an agent?

An agent is basically a little program that, because of the language in which it's written, has the ability to move itself around a network.

From a system standpoint it's involved, but from a conceptual standpoint it's very simple. A program is born in one machine, does some stuff, decides for whatever reason that it needs to go to some other machine to carry on, and does so by using the facilities of this language in which it is written.

From an end-user standpoint, it's helpful, sometimes, to personify it a little bit, to think of it as some sort of little creature or robot or something that goes out into the network and does what you tell it to do. If you wanted to search the news media for a certain kind of information, even if you wanted to go to all the different wire services and the local newspaper and various places, you could have an agent that would go visit each of those places in turn, interact with it in order to obtain the information that you wanted, and come back and tell you the sum total of what it learned. Or if you wanted to go find the best price on a VCR by visiting electronic representatives of all the retail shops, you can do that as well.

It's a way that a user can be represented in a large network, in a way that avoids the need for the user to deal directly with all these information services. The real power of the agent is where you don't have a need to actually see on the screen the representation of each of these information services, you just send an agent to programatically ferret out the information that you want and bring it back to you. You get it done much more quickly and much more easily from an end-user standpoint.

One of the concerns I've heard raised is the issue of what's to stop someone from sending Evil Agents out to wreak havoc?

If there's any one theme or a major aspect of the work that we've been engaged in with Telescript since we invented the basic notion of it, it's this issue of safety.

You're right to be concerned about it. If you didn't have an answer, you'd have a technology that just was academically interesting but had no commercial possibilities.

The question that you ask is sometimes asked as, "Why isn't an agent a virus?"

A virus is a piece of code that finds its way into your machine like your

We Support Novell & SCO Network Systems

Miracle Multimedia

- 486 DX-33 VLB 256K Cache MB
- 4 MB RAM
- Desk Top Case / P.S.
- IDE / VLB / AT / IO
- Teac 1.2MB & 1.44 MB
- 250 MB IDE Hard Drive
- Spider Plus VLB 1280
- Toshiba 3401 B Int. CD-ROM
- MV Pro Audio Spectrum 16
- ViewSonic 15E NI 15" Monitor
- 101 Keyboard

$1819

AMI Enterprise IV

- AMI 486 DX2-66 EISA VLB 256K Cache Motherboard
- 16 MB RAM
- Full - Tower Case /P.S.
- Adaptec 2742T EISA SCSI 2
- Teac 1.2 MB & 1.44 MB
- Fujitsu M2694 1.0GB SCSI
- 2 Serial, 1 Parallel
- ATI Ultra Pro VLB 2MB
- ViewSonic 15E NI 15" Monitor
- 101 Keyboard

$3999

Pentium VLB

- Pentium VLB 60 MHz 512K Cache Motherboard
- 16 MB RAM
- Full - Tower Case /P.S. /2 Fan
- DTC 3270 VL SCSI Controller
- Teac 1.2MB & 1.44 MB
- 525 MB SCSI Hard Disk
- 2 Serial, 1 Parallel
- ATI Ultra Pro VLB 2 MB
- ViewSonic 15 E NI 15" Monitor
- 101 Keyboard

$3625

Miracle VLB System

- 486 DX VLB 256K Cache Motherboard
- 4 MB RAM
- Desk Top Case /P.S.
- IDE /VLB /AT I/O
- Teac 1.2MB & 1.44 MB
- 200 MB Hard Disk
- SVGA VLB Card 1 MB
- 14" SVGA Monitor 0.28 dpi
- 101 Keyboard

486 DX-33 **$1235**

486 DX2-66 **$1435**

AMI Super Voyager

- AMI 486 DX2-66 ISA VLB 256K Cache Motherboard
- 8 MB RAM
- Mid - Tower Case /P.S.
- DTC 3270 VL SCSI Controller
- Teac 1.2MB & 1.44 MB
- 525 MB SCSI Hard Disk
- 2 Serial, 1 Parallel
- Orchid Fahrenheit VLB 1MB
- ViewSonic 15E NI 15" Monitor
- 101 Keyboard

$2595

Pentium PCI

- Pentium PCI 60 MHz 256K Cache Motherboard
- 8 MB RAM
- Full - Tower Case /P.S.
- Teac 1.2MB & 1.44 MB
- 525 MB SCSI Hard Disk
- 2 Serial, 1 Parallel
- PCI Graphics Card
- ViewSonic 15E NI 15" Monitor
- 101 KeyBoard

$3069

386 DX System

- 386 DX -40 128K Cache Motherboard
- 4 MB RAM
- Mini -Tower Case / P.S.
- IDE /AT /IO
- Teac 1.44 MB
- 170 MB Hard Disk
- SVGA 512K Video Card
- 14" .39 mm SVGA Monitor
- 101 Keyboard

$729

486 PCI System

- 486 DX2-66 256K Cache PCI Motherboard
- 4 MB RAM
- Mini - Tower Case /P.S.
- Teac 1.2 MB &1.44 MB
- 500 MB SCSI Hard Disk
- 2 Serial, 1 Parallel
- SVGA 1 MB PCI Video Card
- 14" .28 mm SVGA Monitor
- 101 Keyboard

$2069

Micronics JX30 VLB

- Micronics 486 DX2-66 VLB 256K Cache Motherbord
- 4 MB RAM
- Mid - Tower Case / P.S.
- Teac 1.2 MB & 1.44 MB
- 250 MB Hard Disk
- 2 Serial, 1 Parallel
- Orchid Fahrenheit VLB 1 MB
- ViewSonic 15E NI 15" Monitor
- 101 Keyboard

$2035

Factory Authorized Service Center For
Citizen,Okidata,Panasonic & Star Printers

MIRACLE
COMPUTERS, INC. *SINCE 1985*

For Orders Call:
1-800-446-9929
780 MONTAGUE EXPWAY, SUITE 202
SAN JOSE, CA 95131

Government & Corporate P.O.S Welcome
Prices Reflect C.O.D. Cash
M-F 9:00-5:30
TEL: (408)435-8177
FAX: (408)435-8179

Bill Atkinson:

"There will be little pocketable, electronic communicators that merge telephony and messaging. The question that I come up with is how is that going to feel? Is that going to be something that people find threatening or irritating, or is that going to be something that people welcome into their lives?"

communicate via ink. In fact the major use of a personal computer is to make documents. It is a communicating device, but via ink. You make picture documents and numbers documents and word documents, and communicate them through the mail or through desktop publishing.

As Marc's research on what was beyond personal computing proceeded, his realization was that the bulk of people's life isn't spent at the desk making documents. What else is there?

As we're in the middle of a convergence of many different technologies, the consumer electronics guys are getting more and more intelligence into their devices, you have more and more display, communications devices. Cell phones are getting smaller and have more built-in intelligence, or at least the Rolodex built in. Computers are getting smaller and more portable.

As many different technologies are leaning toward one small electronic assistant that would go with you everywhere all the time, the question is what's it good for, what would you use it for?

How do you support a person? Instead of starting with some technology like a CD and saying, "What's a CD good for?", let's start with a person and say, "What's a person's life like? What are the kinds of things that you could support a person with?"

What about the rest of your life when you're out and around, when you're not at your desk, and what about the other things you do besides make documents?

Marc tried to narrow down the major areas that we could support people in. Not from a technocentric view, but from a human-centric view. What do people want to do?

There were three areas he narrowed down. One of the real important ones is communication, fundamentally because it's at the basis of every relationship—anything from an acquaintance to a business relationship to a friendship to an intimate relationship—all of those don't work without communications. Cut off communications and all friendships and all relationships die.

The second is managing the complexity of life, getting to where you're supposed to be. Kind of the logistics and organization of life—just a mind prosthesis or something [*laughs*] to help you remember things, help you kind of organize and choose and make priorities. That's related to the typical things that PIMs and organizers did, but it could be done a lot better if communication is the focus.

Thirdly, there's an important area of "I need to know." It's like accessing anything from information to entertainment. It's the notion that this thing is not just a box all by itself, but that it's connected out into the world to lots of information. And that connectedness is where the power comes from.

If I had to choose between my telephone and my personal computer today, the telephone is the powerful tool, because of the people I can reach. And the connectedness is what would make a personal communicator something that people would desire to own.

So from there we started thinking about, well, all right let's look at communication. What's wrong with communication now, and how can we make it better?

I work. I don't see my kids much during the day. My wife works. She doesn't see our kids much during the day. I think for a lot of people that's true—somebody was just telling me that in 80% of American households, both parents have to work now.

My daughter used to call me at work, and pretty quickly she picked up that I'm under load here. I would be nice to her on the phone, but she'd still catch kind of an undercurrent of "Well, what is it you want? Can I get off the phone and get back to work?" Also, often I'd be with somebody and the phone would ring and ring and ring, and finally I'd pick it up, and I wouldn't say so, but the tone was "Yeah? What do you want?"

I think about that. When the phone rings I have kind of an ambivalent reaction to it, partly delight that maybe someone would call that I was looking forward to hearing from. But also partly it's "Don't bother me right now!"

Imagine that you took a cellular pocket phone, and it cost fifty bucks, and it was only fifty bucks a month for the service so lots of people could have them. It wouldn't be just a mobile professionals' elite thing. Imagine if kids had pocket phones. Imagine if you had a room with fifty people in it and they all had pocket phones. The first problem you'd run into is that they'd always be ringing. There'd be not one moment that at least one of those fifty phones wasn't ringing.

So the first thing you've got to deal with is a more graceful way of being notified. We came up with this notion of "Well, what if you could just drop a little card in out of the sky?" We call it a Telecard, because it's from a distance, and it's sort of like a telephone, but it's a card. A little message just drops in out of the sky, silently—if you're in a meeting you might set it to "silent"; if you're not, you might set it to a little "chirp once" kind of thing, "Don't bother me, but give me the message."

And it would be with me all the time. Like right now, somebody couldn't reach me on my phone—if [my wife] Sioux had an emergency, she couldn't reach me. But if I had this personal communicator in my pocket, and she could slide a card in my pocket...

So I want some graceful communication that is not only for my benefit, but also for her benefit, because she'll know it's safe to drop it in my pocket. She'll know she won't be troubling me. So many times when I make a phone call, I'm glad I got the answering machine. I wish I could have specified "I just want the answering machine," but you can't. That's kind of dumb. So I'd like to be able to graciously slip a note in somebody's pocket.

I think of the emotional side—how do I feel when I look at this note? I think about how I feel when I'm going through my regular mail. I get about that much a week, about eight inches thick, and it's kind of a pain to dig through. But when I get to a postcard, where one side is a nice color picture and the other side has a small amount of writing on it, and somebody's name, and it's handwritten, so you get more of a personal touch to it—I'm always pleased to get postcards, right? And I think about pulling it out of your pocket and saying, "Ah! I got a card! I got a Telecard!"

That feeling is what we're going after here on the emotional side. It's kind of like Kodak doesn't sell film and cameras based on how sharp their lenses are and how consistent their color quality is—those are attributes their products have. How they sell it is by showing the benefit in a person's life. How do you feel when they show a parent taking a picture of a child at a precious moment that's going to be gone in a couple of years as the child is through that stage? Kodak Moments is really more of an emotional appeal to the benefit to one's lifestyle.

That's what I'm looking at, in terms of how we can take a convergence of technologies that's going to happen with or without General Magic. There will be little pocketable, electronic communicators that merge telephony and messaging. The question that I come up with is how is that going to feel? Is that going to be something that people find threatening or irritating, or is that going to be something that people welcome into their lives?

That's an opportunity. I think the opportunity is just like with the Macintosh. What the Mac team contributed is the difference between DOS and Macintosh.

Say more about that.

A lot of people are going to use personal computers. It's not just how useful are they. It's how graceful are they. How can you make a technology not only accessible to more people, but make it so people welcome it into their lives.

The reaction to the Macintosh was not purely functional or practical. It was emotional. It was "I *want* that. I *like* that. I want it in my life."

Initially it was actually a little hard to justify it, with 128K and a single floppy. It was more of an emotional purchase. As it got more practical, that made it easier to buy. But people fundamentally said they caught the excitement and love and energy that the Mac team put into that little product. And they said, "*Yeah!* I want one of those!"

Also there was a shift in software, away from a textual thing, where, pretty much, the computer would put text out, and usually it was menu screens, and you'd type a digit and that would choose one item. Usually the computer

Get the Highest Performance at the Lowest Prices

with a wide selection of Brand name Computer Systems and Peripherals !

AIR + IBM + NICE + DASH VLB SYSTEMS

AIR Pentium 586-60MHz / 586-66MHz
w/ 512KB Cache use 72 pin Simms

1.2 & 1.44 + Mouse + 16MB use 72 Pin Simms + Viper VLB 2MB + Quantum 525AT + Tower Case

$3,220 / $3,450

AIR MIS VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	AIR MIS VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	AIR MIS 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,650	**$1,810**	**$1,860**

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB + Maxtor 245MB + IDE VLB + SCSI II + TOSHIBA CDROM

NICE EISA 486-33 VLB W/ 256K CACHE MIDD. TOWER SYSTEM	NICE EISA 486-50 VLB W/ 256K CACHE MIDD. TOWER SYSTEM	NICE EISA486-66 VLB W/256K CACHE MIDD. TOWER SYSTEM
$1,310	**$1,460**	**$1,530**

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB 1MB SVGA + Maxtor 340MB + IDE w/ Multi I/O Card

AIR VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,130	**$1,290**	**$1,340**

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB SVGA + Quantum 270MB + IDE VLB w/ Multi I/O Card

BAY VLB 486-33 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486-50 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486DX2-66 w/256K CACHE MINI-TOWER SYSTEM
$1,030	**$1,170**	**$1,230**

1.2 & 1.44 + Mouse + 4MB + Cirrus Logic VLB SVGA + Quantum 270MB + IDE VLB w/ Multi I/O Card

IBM SLC2-66 W/ 64K CACHE MINI TOWER SYSTEM	BAY 386DX-40 W/ 128K CACHE MINI TOWER SYSTEM	BAY 386SX-33 W/0K CACHE MINI TOWER SYSTEM
$890	**$690**	**$620**

1.2 & 1.44 + Mouse + 4MB + TRIDENT 1MB SVGA + Maxtor 213MB + IDE w/ Multi I/O Card

BAYCOMPUTER, INC.

Store Hours: Mon - Fri: 9:30AM - 6:30PM • Sat: 10:00AM - 5:00PM

HARD DISKS

40 MB IDE (28ms)	$135
100MB IDE (18ms)	$160
130 MB IDE Maxtor 7131AT	$175
213 MB IDE Maxtor 7213AT	$215
210 MB IDE Conner CP20204 w/ 256k	$215
245 MB IDE Maxtor 7245AT	$220
270 MB IDE Quantum w/128k cache	$240
340 MB IDE Maxtor 7345AT	$270
520 MB IDE HD Quatum (9ms)	$435
540 MB SCSI HD Quatum (9ms)	$495
1.0GB MB SCSI HD Quantum (9ms)	$865
1.8GB MB SCSI HD Quantum (8ms)	$1135

CD ROM / SOUND CARDS

Sony CD 31A W/ interface card	$140
Toshiba XM-3401B SCSI 200ms	$350
NEC Tripple Speed 3XI CD ROM	$500
Panasonic CR-562 DS CD ROM	$190
ProAudio Spectrum 16w/ SCSI	$140
ProAudio Studio 16 w/ SCSI	$170

VESA LOCAL BUS MOTHERBOARDS

AIR 586MI W/ 256 KCACHE MB W/O CPU	$560
NICE EISA 486 VLB w/256K 33/50 MHz	$275
AIR 486 SH VLB ISA w/256K 33/66Mhz	$140
AIR 486 VLB EISA w/256K 33/50Mhz	$340
AIR MIS VLB + SCSI + IDE W/256Kcache	$305
Dash 486 VLB ISA w/256K 33/50Mhz	$135

PRINTERS

Panasonic KX-2180/2123	$160/240
Deskjet 1200C/Postcript	$1375/1975
Deskjet 500/500C/550C	$295/395/585
HP Laserjet 4/4M/4L/4ML	$1380/1865/669/1025

FLOPPY DRIVE/TAPE BACKUP

TEAC 1.2MB 5.25	$46
TEAC 1.44MB 3.5	$38
TEAC Dual Floppy Drive 1.2 & 1.44MB	$115
Colorado Tape Backup 120MB	$145
Colorado Tape Backup 250MB	$175
Archive 250MB Tape Backup Floppy Con.	$160

NETWORK CARD / SOFTWARES

3COM	
3C503-16 Etherlink II 16 bit coax/TP	$170/180
3C509-16 Etherlink III 16 bit coax/TP	$135/140
COMPULAN	
NE 600E 16 bit TP	$75
NE 200E 16 bit Coax	$65
NOVELL CARDS	
NE2000 16 bit Coax	$130
NE2000 16 bit TP	$135
NOVELL SOFTWARE	
Netware 3.12 for 5/10/20 Users	$595/1290/1895
Netware 4.01 for 5/10/20 Users	$820/1820/2630

SCANNERS

ScanJet IIC Color w/ Kit	$1395
ArtiScan Scanner 600/800/1200	$995/1195/1845

SOFTWARES

Microsoft DOS 6.0	$45
Microsoft DOS 6.2	$40
Microsoft Windows 3.1	$50
Microsoft Windows NT	$319

MONITORS

SuperVGA (1024x768,0.39mm)	$205
SuperVGA (1024x768,0.28mm) Arche	$240
SuperVGA (1024X768, Non-int) Arche	$265
NEC 3FGe 15" Flat Screen	$585
NEC 4FGe 15" Flat Screen	$685
NEC 5FGe 17" Flat Screen	$1075
NEC 5FGp 17" Flat Screen	$1380
NEC 6FGp 21" Flat Screen	$2380
Viewsonic 6E 14" 0.28 DP	$298
Viewsonic 15 15" 0.28DP	$489
Viewsonic 17 17" 0.28DP	$1035
Viewsonic 20 20" 0.28DP	$1720
Viewsonic 21 21" 0.26DP	$2050
Mag 15F 15" 0.28DP (PC Editor Choice)	$495
Mag 17F 17" 0.26DP SVGA Monitor	$885
SONY 1430 14" 1024x768 0.25DP	$595
SONY 1730 17" 1024x768 0.25DP	$995
SONY 17SE 1600x1200 0.25DP	$1230
CTX Monitor 14", 15" non-inter 0.28	$280/380

VIDEO CARD -VLB- VIDEO CARDS

Mono Card w/ Printer Port	$13
Trident 512k Card/ Trident 1MB card	$45/65
16Bit 1 MB Tseng-4000 72Hz 32K Color	$75
Cirrus Logic VLB 1MB/2MB	$95/135
Trident VLB Plus1MB/2MB	$85/130
Number 9 GXe Level 11 2MB ISA/VLB	$355/360
Number 9 GXe Level 12 3MB ISA/VLB	$435/440
Fahrenheit VLB Bus1MB/2MB	$165/205
Orchid Fahrenheit VLB VA 1MB/2MB	$175/215
Orchid Celsius VLB 1Mb/2MB	$205/265
Diamond Speedstar Pro 1MB	$110
Diamond Stealth 24 VLB 1MB	$155
Diamond Stealth Pro VLB 1MB/2MB	$265/325
Diamond Viper VLB 2MB Weitek Chipset	$365
Diamond Viper PCI 2MB	$410
AIR Star-2000 VLB Weitek Chipset 2MB	$360
ATI Ultra Pro VLB 2MB	$365
ATI Ultra Pro PC1 2MBRam	$410

FAX/ MODEM

Zoltrix 2400 Internal Modem	$30
Zoltrix 9600/2400 Fax/Modem	$50
Zoltrix 14.4K V.32 bis, V.42 bis I/E	$125/150
US Robotics Sportster 14.4K I/E	$150/175
US Robotics Courier HST Dual Standard	$Call
Intel SatisfaxtionModerm/400e I/E	$365/385
Intel Fax/Moderm 14.4K I/E	$155/185

MISCELLANEOUS

IDE Multi/IO Caching Controler To 64MB	$105
Promise DC-2000 VLB IDE& I/O	$35
Dash VLB IDE & I/O Suport 2.88FDFast	$50
Orchid VLB IDE & I/O Suport 2.88FDFast	$60
DTC 2270VL VLB IDE & I/O Fast	$75
Promise DC-4030VL IDE VLB CACHE	$135
Adaptec 1522B/1522B Kit SCSI	$85/135
Adaptec 1542C/1542C Kit SCSI	$185/240
Adaptec 2742 ESIA SCSI-2 Upto 14 HD	$365
Adaptec 2842 VLB Fast SCSI-2 Kit	$295
AIR Q-Access VLB SCSI-2 With I/O NEW	$135
AIR 32Bit VLB Ethernet Adaptor	$250
Ethernet NE2000 16 Bit Adaptor	$55
AIR 32BIT VLB SCSI-2 w/o I/O	$260
Trantor T130 SCSI Interface w. Kit	$ 50
ULtrastor 24F EISA SCSI	$365
ULtrastor 34F VLB SCSI	$265
BusLogic BT445S VLB SCSI-II	$260
BusLogic BT545K BusMaster SCSI	$235

MasterCard
VISA.

1252 So. Abel Street, • Milpitas, CA 95035
Tel: (408) 956-8014 • Fax: (408) 956-8013

AT GRAPHICS (408) 988-8822

would drive and the user would be the respondent or slave. Well, the graphical paradigm not only used more pictures, but it also shifted the driver's seat.

A person running a Macintosh is pretty much driving *it,* poking at things and the computer responds. It's opening up a more creative mindset to start with. I think Macintoshes appealed to a group of people that was creative, and would never have stood for DOS.

That's one shift we got to see there. I think there's a much bigger shift coming upon us that we're in the middle of. As we go toward communicating computation, we go away from software as a product industry where you make the shrinkwrap box you buy once, and toward a service industry, an ongoing relationship between a publisher and a reader, much like a magazine compared to a book.

A subscription model rather than a sales model.

Like a cable subscription, or a newspaper.

Now, a newspaper doesn't happen until there's some carrier to get the newspaper distributed, and that's why we've been working not only on the user interface device, Magic Cap, but also on the new post office, which is the Telescript-enabled network. So how do you get the stuff out? How do you get a suitable platform for service-based software to run on?

And there's where Telescript comes in. You know how you can't make a new telephone unless you revamp the wires to it? That's what we're trying to do. Magic Cap can be looked at as putting a face on the telephone. If you use the telephone today, shut your eyes and you're at no disadvantage. There's only twelve keys; a blind person is at no disadvantage. That tells you how little it's using your eyes.

People think call forwarding is hard. How simple, if you had a face that changed. If you put buttons for call forward and prompting instructions of how to do it, anybody could make a conference call. The so-called advanced features that are on every PBX in the country—every business phone has these—nobody can access them, any more than they can program their VCRs, because you're trying to work through a twelve-key interface with fixed labels on it, instead of using your eyes, and seeing, "Okay, here's conference call," and choose this person and this person and this person and say, "Dial," and then it goes and makes the connection and they're all there. You see pictures of who's online and stuff like that. Putting a visual interface on the phone makes those features easily accessible.

That's just the interface side of it.

Think about television. There's a user interface device, the TV set. There's a network, the cable and broadcast station, and your services available through the network that make up the whole experience, the shows I want to watch.

The telephone's the same thing. There's a user interface device, the handset, the telephone set. There's the network of fiber and copper, and there's the services, the people and businesses that I'd want to reach through this phone. If any one of the three is missing, the experience doesn't happen.

A personal communicator is basically a telephone with a face. It requires, again, a network, which is a Telescript-enabled network, and the services, services you'd want to interact with. That's this new whole kind of software that's going to come about.

The network has heretofore been a bit pipe—you put bits in one end, the same bits come out the other end, and unless both ends of the wire have a piece of software that agrees upon what's going to be sent, what's going to be interpreted, there's no meaning to the bits.

What Telescript does is transforms the network into a platform that software runs on. Just like the Macintosh is a platform—third-party guys can write software for it, they don't have to go to Apple and get the ROMs revised and get all the Macintoshes recalled and everybody updated. You can just distribute software on a floppy, somebody could buy the software and put it on their Macintosh, use it there and it will work. Add features to individual Macintoshes without having to rev all Macintoshes, and without having to go back to the manufacturer. That's what makes it a platform. Same thing for Windows—I'm not Mac-centric, I'm saying, "What is a platform?"

The network has not been a platform. If you want to add a new feature to a network in the client-server model, there's typically one server and a million clients. To add a feature you've got to go rev the million clients.

Telescript turns that situation around into a platform, where your features can actually travel with a message as it's going from place to place on the planet and interacting. You don't have to get in line behind General Magic or AT&T or some network in order to make these features happen. It's an open platform.

Let's say in my office I wanted a routing slip. I could put three names on it. It would take this message to the first person, wait for their signature, and then to the second person and wait for their signature, and the third person, and then back to me. And if anybody denied or held it up too long, bring it back to me.

Now to get that added into an X400 system is nigh impossible because every X400 client has to implement it in order for it to work.

It's an afternoon's work for a Telescript hacker to make a piece of stationery that lots of people then can use without knowing Telescript. The vast majority of people that use Telescript will never see Telescript. They'll get the benefits of it, much like Macintosh users get the benefits of PostScript printing, but they don't know that, they don't deal with PostScript. What they'll deal with is "Hey, here's this cool form I got from Hallmark," and Hallmark didn't have to take down the network to get it to work.

Similarly, with this Telescript base, you can add new features, and you can customize your own communications to the way that you really work.

I look at what happens when I sit down at my personal computer at my desk now. I get 150 or so emails a day, and it's kind of a chore. And I notice some things about it that could make it less of a chore.

To give you a good analogy I'll talk about the paper mail I get in my mailbox at home.

There are certain categories of things, and I don't really mind getting junk mail, what I mind is it's mixed in with important business letters, it's mixed in with my personal letters and my bills. And if I had a separate pile of junk mail there, I could choose to ignore it if I wanted to. Like in *Byte* magazine I get these little cellophane-wrapped packets of cards, infocards. And a lot of months I just throw the little packet out, and I'm not disturbed by it, I'm not worried that I lost an important bill or anything, because I know it's just unsolicited offers. They're not even specifically targeted at me. Okay? So I don't think I've missed much.

Sometimes I'll open it and I'll go flip-flip-flip-flip-[*pulls imaginary card from stack*]! flip-flip-flip-flip-[*pulls another imaginary card from stack*]! If there were fifty envelopes there, no way would I go through it, but with fifty cards I've got a chance, because I can do it in about a second apiece.

Well, what I need are better ways for handling communication. As I'm getting overloaded, I can play ostrich and hide, as 70% of the telephones are unlisted.

To be totally honest I have to remind you that it's a little bit biased because some of those are fax machines, and people don't list their fax machines.

But people are playing ostrich. They are hiding from the information onslaught, the information overload. One way is to actually be out of communication. I've seen a little bit of a trend of people to stop using phone answering machines. At first, it was impolite when you had an answering machine. But now, it's impolite when you don't have one.

And a lot of people are finding themselves to be slaves of the answering machine. They get home and there's twenty damn messages. And they're thinking about quality of life, and they're thinking, "I just got home, I'm tired, I want to spend some time with my kid, I want to spend some time with my wife… Is this really a good way to live my life?" And they say, "Well, if I don't have the answering machine, if it's important, they'll find me, and if it's not, *I don't want 'em to.*" [*laughs*] Doing a certain amount of editing my life.

So what I need is a way to customize and filter my mail. I have a person that I pay to pay my bills for me and give me summaries, so I have that mail redirected to her. Another pile of magazines to read when I get the urge. Another pile that's personal letters I almost always read immediately.

Here's a box I wish I had that I don't have, that I bet a lot of people wish they had: Imagine you had a cardboard box that, any time you saw an advertisement that you didn't want to ever get again, you could throw it in that box, and a little elf would come and take those all away and write a postcard to that company saying "Please take me off your mailing list." And then, not really trusting them to take you off their mailing list reliably, that same little elf would filter all my mail before it came to me, and if anything did *accidentally* slip through, it would put it right in the trash so I never saw it.

I get an L.L. Bean catalog about every three or four weeks. And there's an L.L. Bean store down the block from me, [*laughs*] and I'd *never* buy anything from the catalog if I can go look at the stuff. I haven't taken the trouble to write L.L. Bean and say, "Please take me off your mailing list." Well, I'm thinking of

ACORN COMPUTER

No interest or finance charges for 90 days!

"The Best Products, not just the Best Prices."

Acorn CAD/CAM

- Intel 486DX-33/DX2-66
- Genoa VLB motherboard w/256K cache
- TEAC 1.44 & 1.2 floppy drives
- 16 megs 70ns RAM
- 340 meg Western Digital 12ms IDE
- 32-Local Bus IDE controller
- High Speed (16550 UART) serial ports
- Diamond Viper VLB w/2MB
- 15" ADI Low Radiation 1280x1024 monitor
- Medium tower case

$2435/2655

We Participate

BBB CARE

A Customer Assistance Program Of The Better Business Bureau®

Multimedia 486-33/66

- Intel 486DX-33/DX2-66
- Genoa VLB motherboard w/256K cache
- TEAC 1.44 & 1.2 floppy drives
- 8 megs 70ns RAM
- 250 meg Western Digital 12ms IDE
- Local Bus IDE controller
- Genoa 8500VL Local Bus video card
- 14" non-interlaced .28 72Hz SVGA monitor
- Double speed CD-ROM 250ms
- Pro Adio Spectrum 16 sound card
- Labtec CS-550 shielded speakers

$1920/2140

All Systems Include:

- 235 watt UL power supply
- 2 serial/1 parallel/1 game port
- Mini tower or AT case
- 101 Enhanced Keyboard

Optional System Upgrades

Memory

1 meg of 70ns RAM	add $42
1 meg of 60ns RAM	add $45

Video Cards

Call for various Local Bus and ISA options including Orchid, Diamond and ATI.

Monitors

Call for various monitor options including MAG, NEC, ADI, Sampo, and Viewsonic.

Hard Drives

(Upgrade from 170 meg IDE)

210 meg IDE	add $20
250 meg IDE	add $45
340 meg IDE	add $105
420 meg IDE	add $165
540 meg IDE	add $305

CUSTOM SYSTEMS

Our Stanford educated technician will help you design a system to fit your specific needs.

ASK ABOUT OUR NEW GREEN PCs

Genoa 486-33/66

- Intel 486DX-33/DX2-66
- Genoa VLB motherboard w/256K cache
- 2 yr. warranty on motherboard
- TEAC 1.44 & 1.2 floppy drives
- 4 megs 70ns RAM
- 210 meg Western Digital 13ms IDE
- Local Bus IDE controller
- Genoa 8500VL Local Bus video card
- 14" non-interlaced .28 72Hz SVGA monitor

$1395/1615

Acorn 486-33/50/66

- Intel 486DX-33/50/DX2-66 w/128K cache
- 486DX-33/50/DX2-66 w/128K cache
- TEAC 1.44 & 1.2 floppy drives
- 4 megs 70ns RAM
- 170 meg IDE hard drive
- 1 meg SVGA VIDEO CARD
- 14" SVGA .28 monitor

$1225/1395/1445

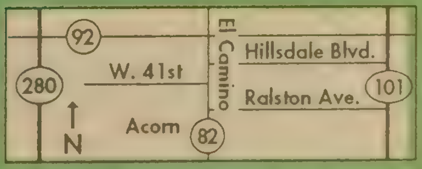
ACORN COMPUTER

61 W. 41st Avenue
San Mateo, CA 94403
Tel: (415) 570-7272
Fax: (415) 570-7464

At **Acorn Computer** our highest priorities are quality and service. That is why all of our systems come with a **LIFETIME LABOR WARRANTY and a 30-DAY MONEY BACK GUARANTEE.**

Financing Available. We Ship Anywhere. Prices Reflect Cash Discount.

HOURS:
MON-FRI 9AM-7PM
Saturday by appointment



Prices subject to change without notice

an electronic assistant here that would aid me in things like that, where first of all I can redirect some kinds of messages; second, I can reject whole classes of messages and say, "I don't want this. Don't ever send it to me again." And enforce that.

An elf. [*laughs*] Or an agent. It's sort of adaptive. It's got to be very personal, custom, because you're not going to guess ahead what all the filters everybody wants are. I want a much higher degree of customizability than I can get with any existing mail system, and that's part of what Telescript buys me.

The next thing it does is it lets me decouple from time.

A business example would be, I call up Dow Jones every morning and ask, "How's Apple stock doing? Is it over 100? Is it time to sell yet?" And every morning I keep calling.

Instead, I could send an agent out to Dow Jones with the instructions "Let me know if Apple breaks 100." And forget about the agent, no more calls! Six months later, I get a card dropping out of the sky saying,"Psst! Apple stock just broke 100!" Basically, I've sent out my agent to do my bidding, my will. My agent is living in the network, living there doing work for me.

On a more personal level, I can send an agent to my bank saying, "Let me know if my checking account gets below $600. Send me a card." And the bank doesn't have to have prearranged to have such a service.

As long as the bank has Telescript?

As long as the bank provides a Telescript connection. With appropriate authority, I can inquire my balance. I can have this agent, or a third-party hacker can put together a balance-watching agent. I can say, "Oooh, I like that," and get that agent from the third party, and send that agent out there with a mission to warn me whenever I get below a certain amount.

And forget about that agent. It's now installed and doing this thing. I've still got a fishing line to him, I can reel him in. He has a budget, how much he's allowed to spend on my behalf—don't spend more than 25¢ a month to do this service, or whatever. I can keep track of how much I'm spending on these agents, and I can recall them if I want.

How would you recall them?

They're on my user interface device; I have little animated robots that look like agents. That's just a way of representing one, that can make it physical enough, people can understand it. I can tap on that agent and he tells me what he's up to. And I say, "Okay, I want to cancel you," and it says, "You're sure?" "Fine."

That basically sends out a message to that agent saying, "Stop, I don't want you any more. Quit."

Supposing you only wanted it to perform this function within a certain time frame.

I give it some time limits. I say, "You expire after this time. You have only these certain privileges. You have only this certain budget."

For example, instead of receiving advertisements all the time for travel, what I'd like to do is this: the one time a year that I'm planning a trip to Hawaii for my family, I send out an agent that will go and wait in an electronic marketplace with other travel agents. I'll say, "Go find me a trip to Hawaii with certain specifications—this general range, I don't want to spend more than this much on the trip, I'm looking for airfare and two rooms for these ages," and kind of send it out there to meet with other travel agents, sift through five hundred offers, and come back with twenty that sound good. And I'll review those twenty.

Basically I turn junk mail inside out. It's a pull, what I'm interested in, and when I'm done with this vacation, it isn't going to keep raining junk mail on me. I can choose to say, "I don't want any unsolicited offers *at all*. This is my personal mail here. I don't want stuff I didn't ask for."

Also, you know, there's a social side to this. A lot of times I get on mailing lists. I cannot tell the mailing list administrator to take me off the list, because that means I don't value their input. What I would love to do is locally tell my mail agent—"Listen, uh..."

There's two different ways that I could cancel that. I could say, "Please ask him not to send it any more." Or I could say, "Don't bother showing it to me." [*laughs*] Or even a third is, "Put it in a file that if I'm ever interested in that area I can look at what his latest inputs were."

I think this ability to customize communications is really essential.

So I think what we're doing is a little bit like the Macintosh in that what we're doing is "How do you take a new technology and find the right fit where people can welcome it into their lives, rather than submit to it and be threatened by it and feel stupid because of it?" The basic concept is kind of like electronic mail in the pocket for Joe Sixpack. It's making communications more graceful, the face on the telephone. Making it so you have more options about communication.

I would guess that ten years from now, many communications are initiated by a card and completed by a call. There are some that are initiated by a card, and I'll respond just by pressing a "Yes, I will attend"; it gets put in my calendar, a reply gets sent. Or jot a little something on it and send it back. That's very easy.

When it requires some conversation about it, I may want to say, "Talk," and I'll call up and talk to the person. If they've just dropped it in my pocket a minute or two ago, the odds are they are right there and I'm not going to be playing phone tag with them. If it's more delicate than that, we need to see each other's faces when we're talking, the more proper response would be to schedule an appointment.

Your communicator talks to their communicator and they set up an appointment...

[*laughs*] Have your communicator talk to my communicator and we'll do lunch!

So I think that basically making communications more graceful is what we're up to. We see it as part of empowering people. Making tools and leverage off of many other creative people is what we've been doing, I've been doing, Andy's been doing. The team of people here have amazing backgrounds—every one of them have been very creative and hardworking individuals that have track records of contributing in the industry. What we're doing here is very much a group artwork, kind of like doing a movie is group artwork or building a house is group artwork. We're doing a good artwork, which is a user interface and an enabling technology for graceful communication.

If today I were to ask you to stop using your telephone, never make another call, never receive another call, you'd think that would be pretty crippling. Because it has enhanced your life, much as we complain about it, the telephone is a good force in our lives, it made our lives better.

Unlike the personal computer, which got a facelift with Macintosh—there was already such a thing, but it was being redefined—the personal communicator is a new thing that's just being born. And if it's as successful, then maybe ten years from now we'll look back, and I'll ask you ten years from now to stop using your personal communicator, and you'll have that same kind of feeling, like, "No, this is too enabling in my life. This is how I keep in touch. This is how I'm in touch with my loved ones throughout the day. I'm in touch with my coworkers on projects. I do more collaborative work because of it. I collaborate with people all over the planet because of it. It has broken down some barriers between cultures and nations. It's fundamental, not peripheral, to the way I live."

It's in the same category of things as my glasses, my watch, my wallet, my checkbook, my pocket knife, my credit cards—the things that I think of as, "if I were teleported to Mars today, what would be with me?" The tools that are valuable enough to me that I wear them. I wear my glasses. I wear my watch. I don't carry it with me. I think these personal communicators have to evolve to be valuable enough and small enough and fun enough and pleasant enough and welcome enough that people choose to wear them. Whether they wear them in some kind of pouch, or whether they get small enough they can go in pockets—I just keep thinking that that's where this is headed. Not a peripheral thing like a Walkman is, a tool that I use maybe once every couple of weeks if that. This is something that's more like my watch that goes with me when I go.

I think that's really the biggest contribution that Magic can make, making a more humane direction to this whole thing, such that people do welcome the personal communicator and enjoy it and take it into their lives.

Andy Hertzfeld, software wizard and senior VP, works primarily on Magic Cap, having had a strong interest in user interfaces since he got his first Apple II. "I had the inclination to be a system programmer throughout my studies at school, but they never let me be the one who could tweak the interrupt handlers and the fundamental programming. I was dying to work at

continued on page 155

LOGITECH CLEARANCE CENTER
HURRY NOW! GREAT PRICES! STOCK IS LIMITED!

Get Logitech quality mice, scanners, camera, and sound products at the absolutely lowest prices. All merchandise is fully functional, has been factory inspected, and comes with warranty. Products are new, returns, or have minor cosmetic blemishes. So hurry now, at these great prices they won't last.

CAMERAS

FotoMan Digital Camera

- PC & Mac
- 72dpi
- 256 Gray scale
- New with full warranty
- Last years model

reg. $799 **$280.00**

FotoMan Plus

- PC & Mac
- 256 Gray Scale
- Hi-Resolution
- Return or Factory Blemish

reg. $799 **$450.00**

Get even greater savings at our SUNDAY SIDEWALK SALE

One day only - Sunday, March 13, 8-4pm

New, sealed packages of mice scanners, soundboards and digital cameras. Used 286 computer systems with hard drive and monitor $350 All sales final. All items subject to stock on hand

SCANNERS

ScanMan Model 32

- 32 Gray Scale
- 100-400dpi
- DOS & Windows Compatible

reg $199 **$59.95**

Mac Version reg. $399 **$144.95**

ScanMan 256

- For Windows
- 256 Gray Scale
- 100-400dpi
- Graphics & OCR Compatible

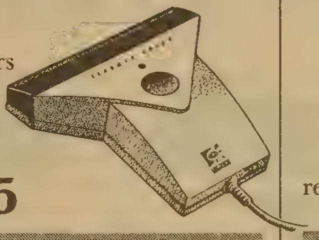
reg. $399 **$119.95**

ScanMan Easy Touch

- For Windows
- Parallel interface, no board required
- 256 Gray Scale
- 100-400dpi
- Great for portables

reg. $399 **$165.95**

ScanMan Color

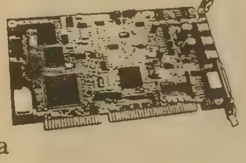


- For Windows
- 24-bit 16.8M Colors
- 100-400dpi
- Perfect for all your scanning needs

reg. $699 **$299.95**

SOUND BOARDS

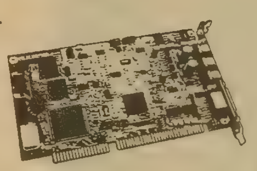
SoundMan 16



- 100% Sound Blaster ad-lib compatible
- 16-bit CD quality sound
- Perfect for Multimedia

reg. $199 **$84.95**

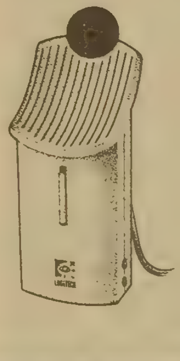
SoundMan Games



- True 8-bit stereo
- 100% Sound Blaster ad-lib compatible
- Compare to Sound Blaster Pro
- DOS or Windows
- New with warranty

reg. $159 **$69.95**

AudioMan



- Add sound to business applications
- Simple parallel port installation
- Great for portables, fully integrated
- For Windows 3.1
- Built-in speaker and microphone

reg. $179 **$59.95**

MICE

Dexxa Mouse

- Mfg by Logitech
- Great entry level
- DOS & Windows

reg. $29.95 **$9.95**

Logitech Series 9

- Hi-Resolution
- 3-Button
- Ergonomic
- Serial interface, Bus or PS2 adaptable

reg $129 **$24.95**

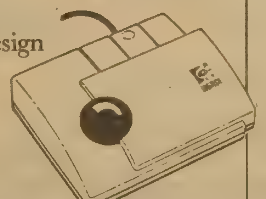
TRACKBALLS

TrackMan

- Last year's version
- 3-Button
- Hi-Res thumb ball design
- PS2 or serial available

reg. $139 **$24.95**

Trackman II

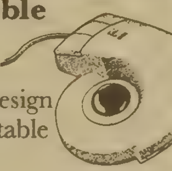


- New ergonomic shape
- Hi-Res. thumb ball design
- 3 buttons
- Serial interface or PS2 adaptable

reg. $119 **$39.95**

TRACKBALLS

TrackMan Portable



- Ideal for Portables
- Clamps to side of keyboard
- Thumb operated 3-button design
- Serial interface or PS2 adaptable

reg. $169 **$39.95**

MouseMan Cordless Mouse

- Hi-Resolution
- 3-Button
- radio waves sees through objects on desk
- Last years model
- The ultimate mouse

reg. $169 **$49.95**

LOGITECH Factory Outlet
6607 Kaiser Drive • Fremont, CA 94555
Hours: M,W,F 9-6 T,TH 10-7 Sat 10-4
(510) 713-5200
(800) 231-7717 x5

Prices Subject to change.
Software and Manuals sold separately. All sales final.
60 Day Warranty Included • Extended service contracts available

From the east bay, take the Dunbarton Bridge exit off the I-880. Take the Ardenwood exit and turn right on Ardenwood. Turn left on Kaiser Dr. You'll find us located to your right at 6607 Kaiser Dr.

From the west bay area, take the Dunbarton bridge and exit at Paseo Padre. Turn left and pass over the freeway, then turn right on Kaiser Dr. You'll find the Logitech Factory Outlet located on the left side of the street at 6607 Kaiser Dr.

ACCESS
COMPUTER TECHNOLOGIES

Leader in Advanced Technology!

The Ultimate "Driving" Machine!

Pentium™ VLB System

- Intel 60Mhz Pentium Processor
- OPTI Chipset
- 512K Cache Memory
- 16MB RAM expandable to 128MB
- 1.2MB and 1.44MB Floppy drives
- Maxtor 540MB 8.5ms IDE hard drive
- Mid Tower w/ 230W power supply
- 101-key enhanced keyboard
- Monitor not included

intel inside™

$2799

Pentium™ PCI System Configuration Available!

Monitors

NEC

MultiSync 5FGp

17" Professional Series Color Monitor

$1299

- .28mm dot pitch
- 1280x1024 max resolution
- 60-74Hz vertical refresh
- 3 year parts and labor warranty

MultiSync 6FGp

21" Professional Series Color Monitor

$2399

CD-ROM Drives

NEC

MultiSpin® 3Xi

Triple Speed Internal CD-ROM Reader (CDR510)

$429

- 195ms access time
- 256Kb cache
- 450Kb/sec transfer rate
- 2 year limited warranty

MEDIA VISION

ProAudio Studio 16

16-bit Stereo Sound Card

$155

Printers

NEC

Silentwriter® 1097

High Performance Postscript

- 600 dpi
- HP III/PCL5 emulation
- 7MB RAM memory
- 10ppm

$1399

Canon

BJC-600 Color Ink Jet

Laser Quality Color Printer

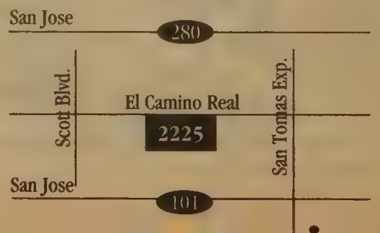
- 300 dpi
- 64 Nozzles per color
- 16.7 million colors available

$599

STORE HOURS
M-F: 9 -8
Sat - Sun: 10 - 5
(Pacific Time)

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Provider of Top Quality Products!

Affordable High Performance Machine

486DX2-66 VESA Local Bus

- Intel 66Mhz Processor
- 256K Cache memory
- 4MB RAM expandable to 32MB
- ZIF socket for Pentium/OverDrive upgrade
- 2 serial, 1 parallel and 1 game port
- VLB IDE FD/HF controller
- 5.25" 1.2MB floppy drive
- Medium Tower w/ 230W power supply
- 101-key enhanced keyboard

intel inside

$849

Genoa 486DX2-66 VESA Local Bus

- Intel 66MHz Processor
- 256K Cache memory
- AMI BIOS
- 4MB RAM expandable to 32MB
- 1.2 5.25" floppy drive
- 3 32-bit & 5 16-bit slots
- VLB IDE HD/FD controller
- SIS-461 Single Chip set
- Mid Tower w/ 230W power supply
- 101-key enhanced keyboard

$949

Monitors

NEC

MultiSync 4FGe

15" Color Monitor

- .28mm
- 1280x768 max resolution
- 60-74Hz vertical refresh
- 3 year parts and labor warranty

$665

Graphic Cards

SPIDER 32VLB Plus	$115
GENOA 8500VL Turbo	$119
DIAMOND SpeedStar Pro	$119
DIAMOND Viper VLB	$369
ATI Graphic UltraPro 2MB VRAM	$299

CD-ROM Drives

Maxtor®

245MB	540MB
7245A	MXT-540A
15ms	8.5ms
$218	**$418**

CONNER

250MB	340MB
30254	CFA340A
12ms	13ms
$208	**$249**

Printers

OKIDATA®

OL410e LED Page Printer

Laser Quality Performance

- 600 dpi class printer
- 4ppm
- 5 yr print head warranty

$688

Multimedia

CREATIVE
CREATIVE LABS, INC.

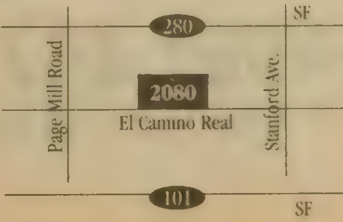
Discovery CD 16

- Dual Speed CD-ROM Drive
- SoundBlaster sound card
- Stereo Speakers
- 6 popular CD Titles

$399

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS
ACCESS COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

ACCESS
COMPUTER TECHNOLOGIES

EPSON®

WHEN YOU'VE GOT AN EPSON,
YOU'VE GOT A LOT OF COMPANY™

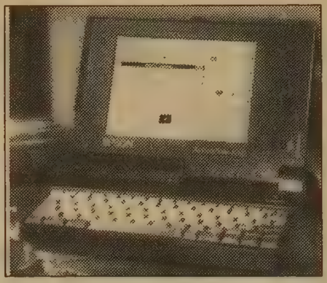
3.8 lbs

ActionNote 4000

486SL-33 MHz Sub-Notebook

- 4 MB RAM
- 120 MB HD
- DOS and Windows
- Built-in Trackball
- 1 year on-site service warranty
- Carrying Case

$1349



ActionNote 486SLC2-50MHz

COLOR!

- Large 120MB HD
- Passive Matrix color LCD
- Memory expandable to 8MB
- Trackball included
- 4MB RAM
- Built-in Modem
- Carrying case
- Weighs only 5.5 lbs

$1999

Progression 4 System

486SX-33MHz w/ CD-ROM Drive

Run Windows faster than ever before with the Epson Progression 4 ... the 486PC that redefines local bus graphic acceleration.

EPSON'S Wingine technology:

- Runs Windows applications up to 37 times faster than standard Super VGA.

A Host of Upgrade Paths:

- ZIF socket support for Intel's OverDrive Processor upgrades
- 4MB of RAM, upgradeable to 128MB

Ready to Run:

- Includes the latest version of MS-DOS and Windows, and an Epson mouse.

Your Choice of Intel Processors:

- 486SX/33
- with a 3.5" 1.44MB FDD along your choice of 120MB.

**Take the Access Challenge.
We've got the Hottest Windows PC.**

$969*

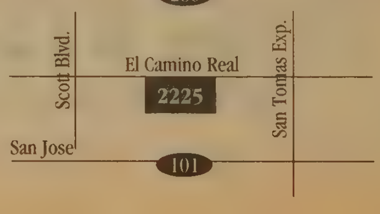
w/ Philips CD-ROM Drive

** #1 in Wintech Benchmark test.*

Come In And Compare!

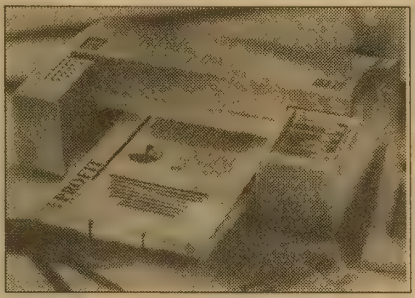
(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Authorized Sales & Service Center

New!

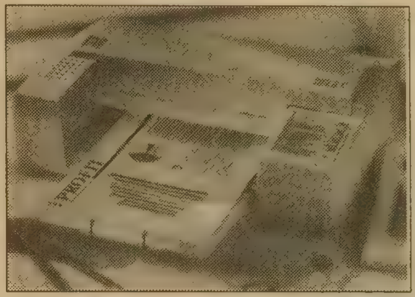


ActionPrinter 3260

COLOR-ABLE* PRINTER

- 24-pin letter quality
- 360x360 dpi resolution
- 216cps draft mode
- 50-sheet paper tray
- 2 year warranty
- Optional Color Kit

$199



STYLUS 800

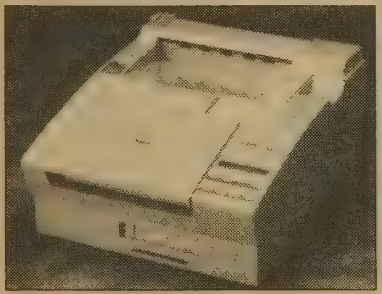
Ink Jet Printer

- Fast 150cps
- 7 typefaces with 4 scalable fonts
- Quiet 45dBA
- Prints envelopes with ease
- Crisp 360dpi laser quality
- 100-sheet plain paper tray
- Compact footprint
- 2 year warranty

$264*

** $25 end-user rebate thru 5/31/94*

STYLUS 300 [illegible] **$249**



Action Laser 1000

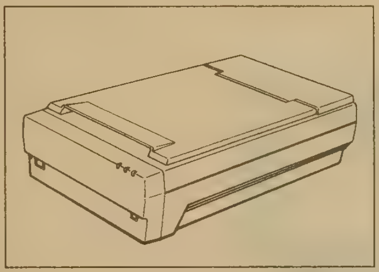
- 6ppm
- 14 standard fonts
- 150-sheet universal tray
- HP IIP, PCL-4 emulation
- 2 year warranty
- 512K RAM exp to 6.5MB
- 1 cartridge slot

$599

ActionLaser 1500

- 6ppm
- 1MB RAM exp to 5MB
- 14 resident, 13 scale fonts
- 1 cartridge slot
- 150-sheet universal tray
- HP III/IIIsi, PCL-5 emulation
- 2 year warranty

$688



Action Scanning ES-600C

- Output resolution 50-600 dpi
- 24-bit color, 8-bit greyscale
- Built-in imaging procesing features: brightness, gamma, color correction
- Exclusive TruePass™ technology
- Available for PC or Mac

$796

ActionScanning ES-800C

- Output resolution 50-800dpi
- 24-bit color, 8-bit greyscale
- Built-in imaging processing features: brightness, gamma, color correction
- Available for PC or Mac
- Exclusive TruePass™ technology

$1295

ACCESS

ACCESS COMPUTER TECHNOLOGIES

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036

280
SF
Page Mill Road
2080
El Camino Real
Stanford Ave.
101
SF

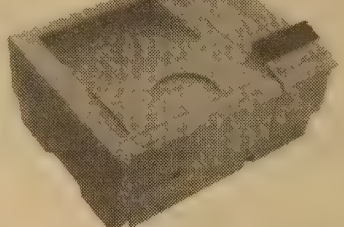
- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

ACCESS
COMPUTER TECHNOLOGIES

Authorized NEC Sales Center

NEC

Mac & IBM Compatible



Silentwriter® 95f

- 6 ppm, 2MB RAM exp to 5MB
- 35 scalable Adobe fonts
- 14 bitmap & 8 scalable HP fonts
- HP Laserjet III w/ PCL-5 emulation
- Auto Interface Monitoring for easy sharing

$899

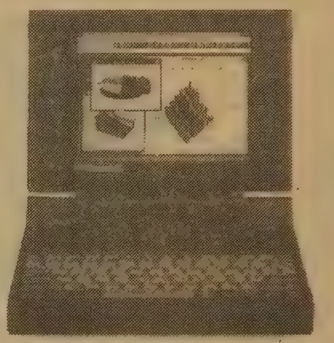
Silentwriter® 1097

- 600dpi Postscript Printer
- Adobe Postscript Level 2
- 10 Pages per minute
- 7MB RAM Memory
- Includes AppleTalk™
- High-speed RISC Processor
- 250 Sheet Paper Tray
- HP III (PCL5) Emulation
- Built-in Auto Emulation

$1399

NEC

NEW!



Versa E Notebooks

486DX2-50 MHz

- i486 SL DX2-50 MHz
- 4MB RAM Expandable to 20MB
- Removeable/Reversible Screen
- 209 MB Hard Drive
- 2 Type II PCMCIA Slots
- MS-DOS & Windows
- Front-Mounted Mouse

Color!

$4451

NEC

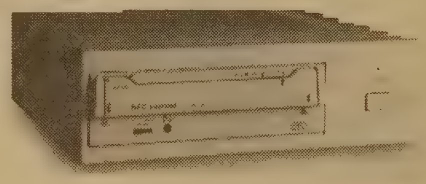
MultiSync Monitor 3V

- 15", .28mm flat square CRT
- 1024x768 at up to 60Hz
- Energy Star compliance
- 3 year warranty

$529

Professional Series	
5FGp 17" 1024 .28	1299.00
6FGp 20" 1280 .28	2399.00
Business/Home Series	
SVGA 14" 1024 .28	329.00
3FGe 15" 1024 .28 60Hz	588.00
4FGe 15" 1024 .28 76Hz	665.00
5FGe 17" 1024 .28	1078.00

NEC



Triple Speed

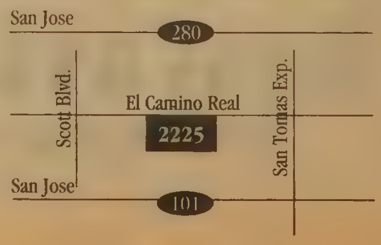
MultiSpin CD ROM Drive

- 145ms access time
- 256Kb Cache
- 450Kb/sec transfer rate
- 2 year limited warranty

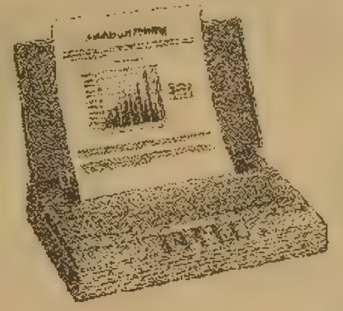
3Xi	Internal (CDR510)	$429
3Xe	External	$559

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Authorized [illegible] Sales & Service



BJ-10sx Portable
Bubble Jet Printer

- Prints 30% faster than 10ex
- Weighs 10% lighter than 10ex
- Text graphics up to 360dpi
- Uses plain paper and transparencies
- 1 year warranty

Optional 50-sheet (ASF6420) Cut sheet Feeder $89

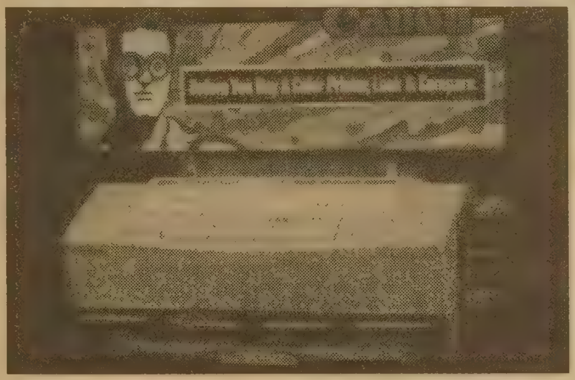
$249

innova 486TXC 25
Color Notebook

- 4MB RAM
- 120MB HD
- Active Matrix Color
- 2 PCMCIA slots
- DOS & Windows preinstalled
- Built-in trackball
- One year limited warranty

Color!

$3199



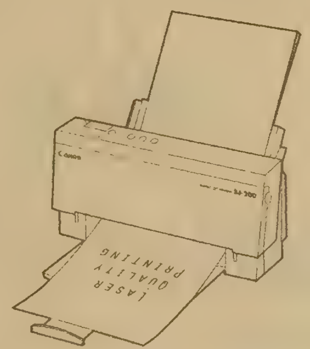
BJC-600 Color
Ink Jet Printer

Prints Transparencies!

- 360 dpi
- 240cps draft, 170cps high quality
- 64 nozzles per color
- 16.7 million colors available
- 100-sheet ASF
- 2 year product warranty

Color!

$599



BJ-200e
Ink Jet Printer

- 360dpi resolution
- Prints up to 248cps
- 100-page sheet feeder
- 7 resident fonts
- Hold up to 10 envelopes
- 2 Year Warranty

$319

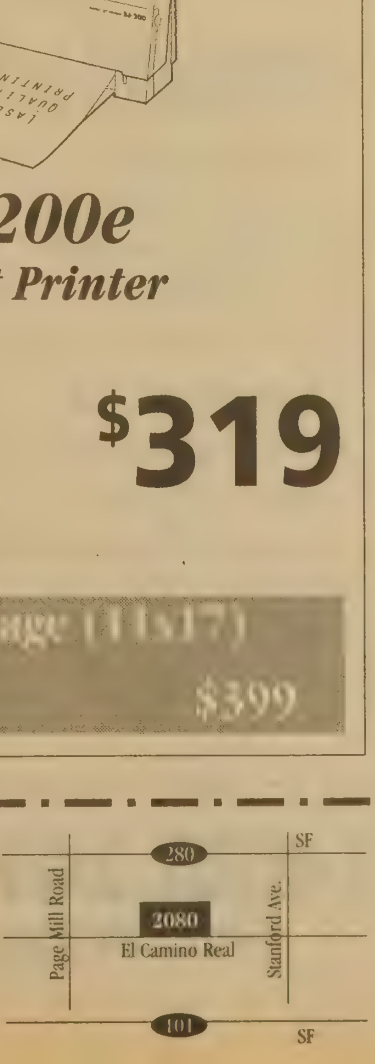
Wide Carriage (11x17)	
BJ-230	$399

ACCESS COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

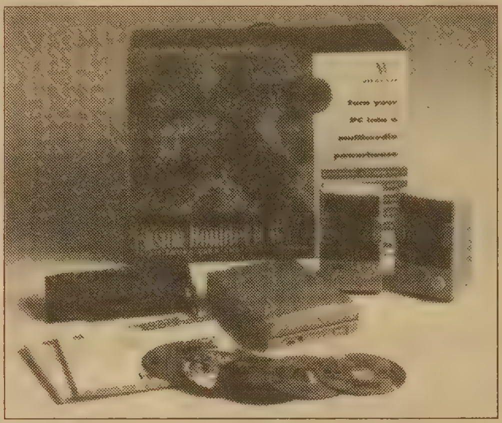
(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS COMPUTER TECHNOLOGIES

Complete Multimedia Solution Center



COMPUTE CHOICE AWARDS
Best Peripheral 1993
Pro AudioSpectrum 16

MEDIA VISION

Fusion DoubleCD 16

- Award-Winning 16-bit Sound Card
- Double Speed CD ROM Drive with SCSI I/F
- Kodak Photo CD Multi-Session Ready
- Amplified Stereo Speaker System
- Seven Most Popular CD Software Titles

Sound Cards

ProAudio 16 Basic	$88
ProAudio Spectrum 16	$129
ProAudio Studio 16	$159

$469

ORCHID

Sound Wave 32

- 16-Bit CD Quality Sound
- MPC Level II Compatible
- 20 MIPs 16-Bit Digital Signal Processor
- 1 MB of Wavetable Sample
- Speakers, Microphone, Software

$198

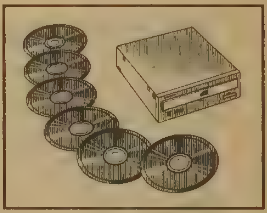
Game Wave 32

New Lower Price!

- 16-Bit CD Quality Sound
- MPC Level II Compatible
- 20 MIPs 16-Bit Digital Signal Processor
- Support Sound Blaster, AdLib General MIDI & MT-32 modes
- Playback Only

$129

SONY



Desktop Library

The Complete MultiMedia Kit

- Internal CD ROM Drive
- 16-Bit Sound Card
- SONY Stereo Speakers
- 6 Popular CD ROM Titles

$459

tvator Pro

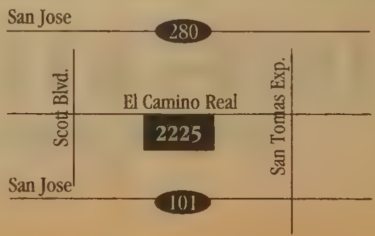
PC to TV Presentation Partner

- Flicker-free display
- Windows compatible
- Simultaneous display up to 4 output
- Auto Blanking feature
- 1 year limited warranty

$199

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Complete Multimedia Solution Center

TOSHIBA

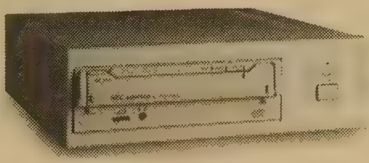
XM3401
Internal Drive
200ms Access Time

HDT3401T **$329**

MITSUMI

Double Speed
Internal
250ms Access Time

$188 HDM001



TEXEL

3021
SCSI I/F Internal

CDT3021 **$149**

PHILIPS

Internal CD-ROM
Cable, driver and interface w/ ToolWorks
Encyclopedia CD ROM Title

HDP205, CDR056 **$129**

9.99
CD Titles

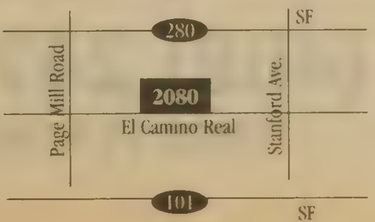
- Games Galore
- 49er Window Games
- Hot Shareware
- Puzzle 5000
- 3D Animania
- World of Education
- Sound Library II
- Music Toolbox
- Travel to Space
- Clipart Library
- Image Library II
- Midi & WaveMusic Workshop
- Windows 50 Games
- All You Can Play
- 15000 Text
- The Last Dinosaur Egg
- Family Fun
- Hall of Fonts
- Music From Heaven
- Championship Wrestling Vol. 1

Accessories

SPEAKERS $4.77	LABTEC SPEAKERS SS-700 AMPLIFIED $29.99
LABTEC SPEAKERS CS-1400 AMPLIFIED $108.99	LABTEC SPEAKERS CS-1000 SYSTEM $79.98
CD CADDY $5.99	CD HOLDERS FROM $8.99
CD LASER CLEANER FROM $18.99	COMPUTER CLEANING KIT FROM $4.99
AUDIO CABLE FROM $6.99	JOYSTICK FROM $9.99

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS
COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

Mobile Office Solution Source Center

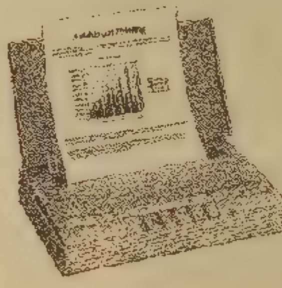
ACCESS

COMPUTER TECHNOLOGIES

ACCESS

Canon

BJ-10ex



Portable Ink Jet Printer

$149*

** Refurbished with 90-day Warranty*

HEWLETT PACKARD

HP Deskjet 310

Portable Ink Jet Printer

$299

Avanti 025

486SLC-25MHz Color

- 486 SLC-25MHz
- 4MB RAM Exp to 20MB
- DOS, Windows
- Passive Matrix Color
- 120MB Hard Drive
- Built in Track Ball
- 96/24 Fax Modem

Color

$1999

New!

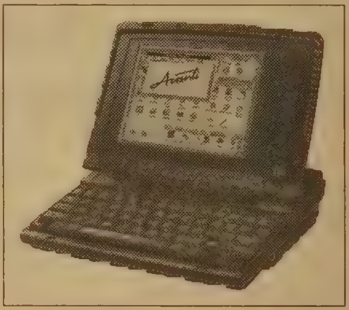
TOSHIBA

Sub-Notebook T3400

- 486SL-33MHz
- 120 MB HD
- 4MB RAM exp. to 20MB
- 3.5" 1.44 Ext. FD
- PCMCIA II Slot
- 3-year limited warranty

CALL

Ergonomical Design in Teal or Graphita Color Case!!



ARCHE

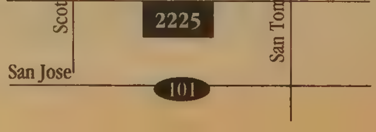
486SLC-33MHz

- Affordable 486 Notebook
- 4MB Expandable to 8MB
- Removable 12MB HD
- Built-in Trackball
- DOS, Windows, Publish, Works & Carrying Case

$1299

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Complete Communication Source

USRobotics
The Intelligent Choice in Data Communications

Sportster Modems

The 14.4 Internal Modem

- V.42/MNP5
- Easy installation
- 5 year limited warranty

$145

External	159.00

Faxmodem

Internal	149 .00
External	169.00

MX
MACRONIX, INC.

Internal Faxmodem for Windows

MX Stealth
Fax Modem

- 14.4 send/receive data fax
- MNP 5 & V.42 bis
- WinFax Lite™ fax software
- Microphone LT/Windows™ software

$129

9600/2400 bps fax modems

Internal for PC	78.00
Internal for Toshiba notebooks	108.00
Pocket faxmodem for PC	126.00

14.4/14.4 fax modem

Internal for Mac PowerBook	238.00
Pocket faxmodem for Mac	238.00
Pocket faxmodem for PC	238.00

Keyboards

NMB 101 KB w/ PS/2 connector	15.00
MITSUMI 101-key	29.00
FUJITSU 101-key 4700	59.00
SUNTOUCH ALPS 101-key	57.00
FOCUS	
9000 129 Key W/Calculator	69.00
8000 101 Key W/Calculator	49.00
2001 101 Key W/Calculator	45.00
Proxellent	
121 Key Programmable B/K	79.00
Northgate	
101N1 101 Key	79.00
Keytronic	
101 Key	39.00
TrakPro W/Trackball for Mac	169.00

Complete Communicator

• Modem • Voice • Fax •

- 9600bps Group II Send/Receive Fax
- Fax directly from Windows or MS-DOS applications
- 2400bps Hayes compatible modem
- Full-featured Personal Voice Mail System
- Auto Voice/Fax Detection
- Internal Version
- 7 year warranty

PHC105 **$69**

Network

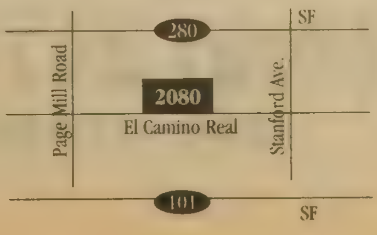
SMC	
Elite Plus 16-Bit TP	139.00
Ethercard 16 Ultra Coax 16	119.00
3COM	
Ethernet III TP NIC	119.00
Ethernet III Coax (Bulk)	129.00
Intel	
E-Net Flash 16-bit 10MB Thick	159.00
EtherExpress 16 TP	109.00

ACCESS
ACCESS
COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS
COMPUTER TECHNOLOGIES

Complete Printer Source Center

OKIDATA

OL-400e LED Page Printer

- Compact Size and sleek design fits comfortably on any desktop
- Fast 4ppm printing with RISC microprocessor for higher productivity
- 44 fonts for great-looking correspondence and reports
- Perfectly compatible with virtually all software applications

$499.99

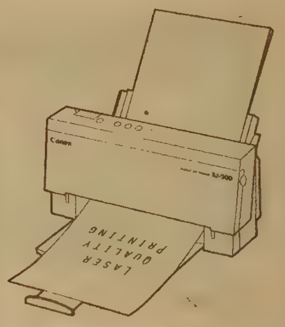
OL410e

- 600 dpi resolution
- 4 ppm

$688

Canon

BJ-200 Ink Jet



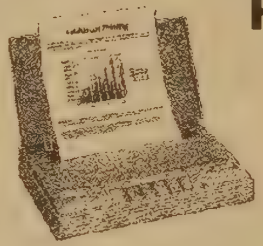
- Prints up to 248cps
- 100-sheet feeder
- Optional ASF
- 90-day Warranty

$229*

** Refurbished Printer*

Canon

BJ-10ex Portable Inkjet

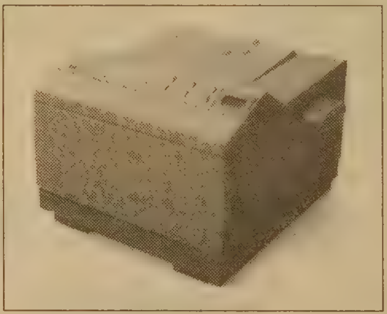


- Prints up to 84cps
- Weighs only 4 lbs.
- 90-day Warranty

$149*

** Refurbished Printer*

HEWLETT PACKARD



LaserJet

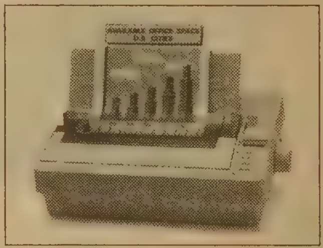
4	8ppm, 600dpi, PCL-5	$1399.00
4L		$669.00
4M	6ppm, Postscript Mac/IBM	$1949.00
4P		$979.00
4MP		$1395.00
4Si		$2995.00

DeskJet

500C		$398.00
550C	Color Printer	$519.00
1200C	Color 6ppm, 2MB RAM	$1429.00
1200C/PS	Postscript	$1899.00

CITIZEN

200GX Printer



- 240cps, 9-pin printer
- 5 built-in fonts
- Fontlocking feature
- Paper parking
- 2 year limited warranty

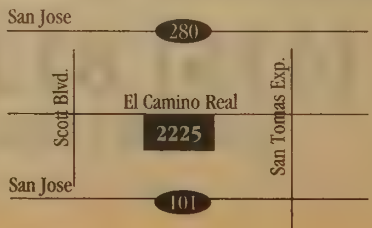
$129

Panasonic Office Automation

KX-P1150	$139.00
KX-P2023	$199.00
KX-P2123	$239.00
KX-P4440 Laser, 10PPM	$999.00
KX-P4455 Laser, 2MB	$1399.00

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Complete Computer Peripherals Source

386DX-40

Motherboard
with CPU

$88

96/24 Ext. Faxmodem

By Wang

$39

486DX-33

Motherboard
No CPU

$59

101 Keyboard

With PS/2
Connector

$15

Microsoft Ball Point Mouse

W/ Desktop stand

$29.99

3.5" Formatted Diskettes

Sold in box of 10

32¢ ea.

XDM350

Cordless Mouse

by Z-NIX

$29

SpikeMaster

2x2 Surge
Protector

$6.99

XSP611

14" Color VGA Monitor

by Abonite

$169

15" SVGA Monitor

For Mac & PC
by Sigma Design

$299

ATI TECHNOLOGIES INC

Graphic Ultra Pro

2MB RAM

$299

ADN92MV

Panasonic
Office Automation OA

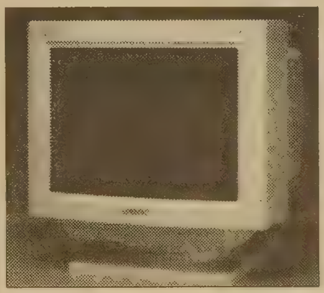
PanaSync/Pro

17", 1280, .28

$1099

C1795E

SONY



IBM & Mac Compatible

GDM-17SE1

- 1600x1200 max resolution
- .25mm dot pitch
- 50-150Hz vertical scan range
- Energy Star compliant

$1199

CPD-1320	14"	640	.25	339.00
CPD-1304	14"	1024	.25	459.00
GDM2036	20"	1024	.30	1993.00
GDM2038	20"	1024	.25	2299.00

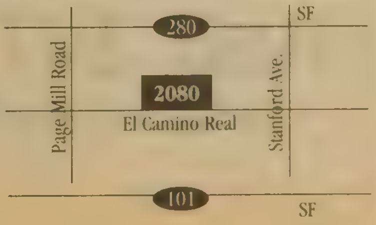
ACCESS

COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

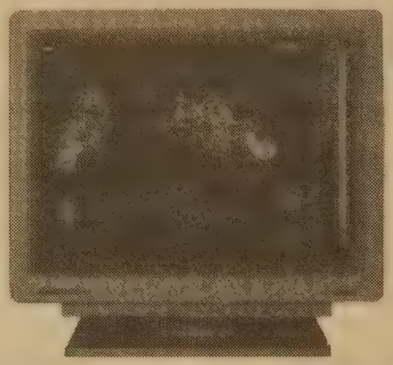
(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS
COMPUTER TECHNOLOGIES

Authorized NANAO *Sales Center*



F550i

- 17" FST 0.28mm dot pitch
- 1280x1024 resolution
- Conforms to MPR-II
- VGA Cable included
- Wide View Full Sscanning Function
- Non-glare, anti-static
- Dynamic Focusing
- FCC Class B
- FlexScan (30-65 kHz)

$849*

**after $100 mail-in rebate*

750	$1799.00
9080i	$799.00

F340i-W

- 15" FST 0.28mm dot pitch
- Non-glare, anti-static
- 1024x768 resolution
- VGA Cable included
- PowerManager energy saving system
- Wide View Full Scanning Function

$599

F550i-W

- 17" FST 0.28mm dot pitch
- ErgoCoat™ Coating
- 1280x1024 resolution
- VGA Cable included
- Wide View Full Scanning Function
- PowerManager energy saving system

$1039*

F560i-W

- 17" FST 0.28mm dot pitch
- 1280x1024 resolution
- ErgoCoat™ Coating
- VGA Cable included
- Wide View Full Scanning Function
- PowerManager energy saving system

$1270*

* Price after MFG rebate

F760i-W

- 21" FST 0.28mm dot pitch
- Non-glare, anti-static
- 1024x768 resolution @76Hz
- Dynamic Focusing/Dynamic Beam Spot Control
- PowerManager energy saving system
- Wide View Full Scanning Function
- VGA Cable included

$1899*

F780i-W *Special Bundle!*

- 21" FST 0.26mm dot pitch, Invar Shadow Mask
- ErgoPanel Anti Reflection Anti Static
- 1600x1200 resolution @80Hz
- PowerManager energy saving system
- Conforms to MPR-II and TCO
- VGA Cable included

Comes with Matrox MGA-II, the fastest graphics accelerator card for F7801W. 200MHz DAC and faster 70nS VRAM for supporting 1600x1200 resolution at 76Hz high refresh rate. 24-bit true color at 1152x882 and 15- bit high color.

• 2MB+ (upgradeable to 4MB)	$3837
• 4MB	$3939

T560i

- 17" SA Trinitron 0.25mm grill pitch
- ErgoPanel™ Anti Reflection Anti Static
- CRT Surface Panel
- 1280x1024 resolution
- Dynamic Focusing/Dynamic Beam Spot Control
- Conforms to MPR-II and TCO
- PowerManager energy saving system
- Wide View Full Scanning Function
- VGA Cable included

$1519*

T660i-W

- 20" SA Trinitron 0.30mm grill pitch
- ErgoPanel™ Anti Reflection Anti Static
- CRT Surface Panel
- 1280x1024 resolution
- Dynamic Focusing/Dynamic Beam Spot Control
- Conforms to MPR-II and TCO
- PowerManager energy saving system
- Wide View Full Scanning Function
- VGA Cable included

$2249*

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050

San Jose
280
Scott Blvd.
El Camino Real
2225
San Tomas Exp.
San Jose
101

Complete PC Accessories Sales Center

AC Line Conditioner

Eliminates Surges & Spikes...
with clean, steady power level

300VA	$29.00
500VA	$59.00
1000VA	$69.00

486/Pentium CPU Fan

ICFAN

$12.99

Fan Interface Card with 2 Fans

$39.99

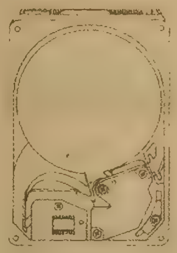
UPS

Prevent Lost Data...
With an Uninterrupted Power System

250VA	195.00
550VA standby w/ Novell adapter	229.00
300VA	349.00
1250VA w/ indicator	489.00

Floppy Drives

Dual Drive	$99.00
3.5" 1.44MB	$38.00
5.25" 1.2MB	$48.00



Reliable High-Performance
Magnetic Drives To
Meet Your Most
Demanding Jobs!

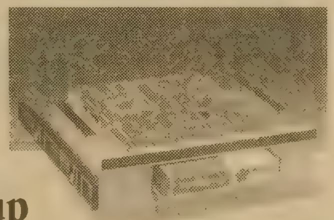
CONNER

254MB	$208
344MB	$249

Maxtor

245MB	$218
340MB	$268
540MB IDE	$418
540MB SCSI	$619

COLORADO MEMORY SYSTEMS INC.



DJ-20
250MB Tape Backup

- Internal
- Runs off floppy port
- Uses 2120 tapes

$159

DJ-10 120MB	$99.00

Mobile HD Rack

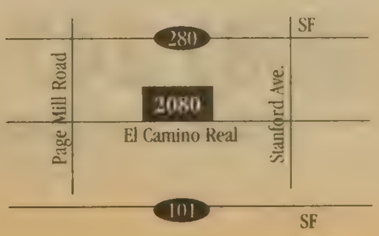
Fits all 3.5" IDE Hard Drives

Allows easy installation & removal of hard drives. The perfect way to protect & transport all your valuable data!

$39 HDA001

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



ACCESS
COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

ACCESS
COMPUTER TECHNOLOGIES

Complete Computer Source

CREATIVE
CREATIVE LABS, INC.

MULTIMEDIA

SB Deluxe		$65
SB Pro Deluxe		$89
SB 16 Basic Edition	16-bit digital sound with WB upgrade	$139
SB 16 MCD	16 Multi CD-ROM Interface	$165
SB 16 SCSI	SCSI compatible	$184
SB 16 MCD ASP	With Advanced Signal Processing	$195
SB 16 SCSI ASP	16-bit digital sound, adv. signal processor, WB upgrade conn	$199
Discovery CD	16 Int Multimedia Upgrade Kit, 16-bit Internal	$399
Edutainment CD	16 Int Multimedia Upgrade Kit Internal	$459
Omni CD	Internal double-speed CD-ROM drive and interface card	$269*

** 70 instore instant rebate*

DIAMOND
Computer Systems, Inc.

GRAPHIC CARDS

SpeedSTAR Pro 24 bit, AutoCAD & Windows acc. 1MB	$115
Stealth 24/VLB 1MB ISA or VLB	$149
Stealth Pro 1M 1MB VLB	$245
Viper VLB 2MB VL-Bus only (WEITEK power 9000 chipset)	$365

PLEXTOR **CD ROMS**
FORMERLY TEXEL

DM-3028	Internal	$285
DM-5028	External	$375

GRAPHIC CARDS

9GXE	**Level10 ISA or VL, 1MB**	$249
9GXE	**Level 11 ISA, 2MB**	$345
9GXE	**Level 11 VL, 2MB**	$345
9GXE	**Level 12 ISA, 3MB**	$409
9GXE	**Level 12 VL, 3MB**	$409

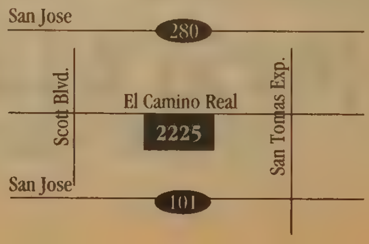
matrox
VIDEO PRODUCTS GROUP

GRAPHIC CARDS

MGA2 + PCI	$535
MGA PCI2	$455
Impressions 3AH Pro	$735
Impressions 3VH	$795

(408) 247-4444
(408) 247-4448 FAX

SANTA CLARA
2225 El Camino Real
Santa Clara, CA 95050



Complete Computer Source

ATI TECHNOLOGIES INC.

Perfecting the PC

GRAPHIC CARDS

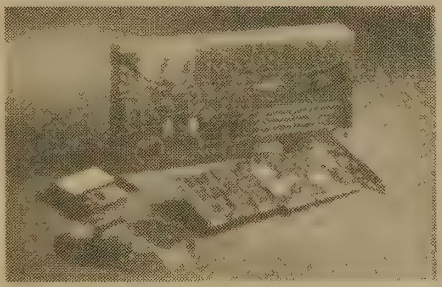
Graphics Ultra Pro VLB 2MB	$299
Graphics Ultra Pro ISA 2MB	$249

HITACHI NSA NISSEI SANGYO AMERICA, LTD.

MONITORS

CM2095MU-512 20", 1280	$1399
CM1797MU 17", 1280, .28	$1089
CM1586MU 15", 1280, .28	$469

SIGMA DESIGNS®



MULTIMEDIA

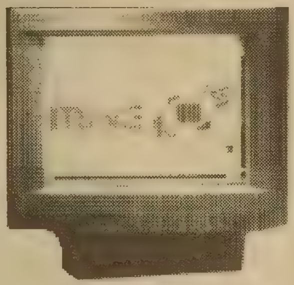
Reel Magic	$349
Reel Magic SCSI	CALL
Reel Magic CD-ROM Kit	$669

NOKIA CONSUMER ELECTRONICS

MONITORS

449E 15", .28mm, Invar, 30-62 KHz	$535
447B 17", Trinitron, .25mm, 30-62 KHz	$988
445X 21", .26mm, 30-102 KHz	$2666
445M 21", .26mm, 30-79 KHz	$2066

MAG



MONITORS

MX17FG 17", 1280	$888
MX15FG 15", 1280, .26mm	$499

Summagraphics®

DIGITIZERS

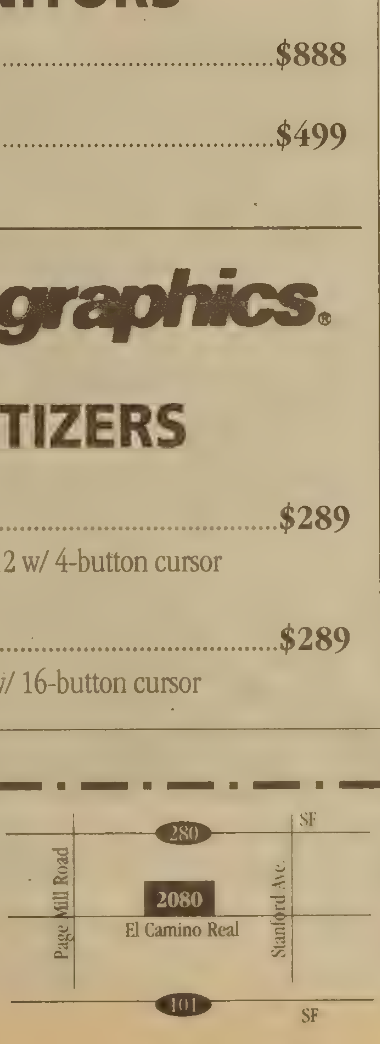
MM1201 II SSP4 SummaSketch III Plus 12x12 w/ 4-button cursor	$289
MM1201 III SSP16 SummaSketch Plus 12x12 w/ 16-button cursor	$289

ACCESS
ACCESS
COMPUTER TECHNOLOGIES

- Price good thru 4/1/94
- Not responsible for typos
- Price subject to change without notice
- Sale prices are for end users purchase only

(415) 813-0600
(415) 813-0635 FAX

PALO ALTO
2080 El Camino Real
Palo Alto, 94036



Power, Performance and
to Buy Your Next System

Motherboard with CPU

* 386SX-33 w/64K	$89
* 386SX-40 w/64K	$98
* 386DX-40 w/128K	$118
* 486SX-25 w/128K	$168
* 486SX-33 w/128K	$198
* AMD 486DX-40 w/128K	$343
* 486DLC-33 + MATH-CO w/128K	$158
* 486DLC-40 w/128K	$148
* 486DX-33/50/DX2-66 w/128K	$346/488/548
* VLB 486DX-33 w/128K	$348
* VLB 486DX-50 w/128K	$498
* VLB 486DX2-66 w/128K	$548
* EISA VLB 486DX-33 w/256K	$438
* EISA VLB 486DX-50 w/256K	$588
* EISA VLB 486DX2-66 w/256K	$648
* GENOA VLB 486DX-33 w/256K	$398
* ORCHID VLB 486DX-33 w/256K	$425
* ASU "ZIF" VLB 486DX-33/50 w/128K	$388/525
* PENTIUM 60MHz w/512K	$1299

PRESTIGE
PC
COMPUTER
PRESTIGE COMPUTER
PRESTIGE COMPUTER

Prestige Computer Inc.

408-249-3398 Fax: (408) 249-3392
3248 Stevens Creek Blvd., San Jose, CA 95117
Hours: Monday-Saturday 9:00am-7:00pm; Closed Sunday

Price Aren't the Only Reasons from Prestige Computer

$ave 3% with Cash Purchase (Systems)

VESA-ISA
486DX2-66
$1,338

VESA-ISA
486DX-50
$1,198

VESA-ISA
486DX-33
$1,138

EISA-VESA
486DX-50
$1,388

- Mother Board and CPU
- 4 MB Memory Installed 70ns
- Teac 1.2 MB and 1.44 MB Floppy Drives
- IDE HD & FD Controller w/2S/1P/1G
- 130 MB Hard Disk Made By Maxtor
- 14" SVGA Monitor
- SVGA Video Card w/1 MB
- 101 Enhanced Keyboard
- Mini-Tower Case w/Power Supply
- Serial Mouse

ISA
486DLC-33
$952

ISA
386DX-40
$910

ISA
486DLC-40
$962

EISA-VESA
486DX-33
$1,238

VESA-ISA
Pentium-66
$2,498

VESA-ISA
Pentium-60
$2,368

EISA-VESA
486DX2-66
$1,438

HARD DRIVES

130 MB IDE	$183
170 MB IDE	190
213 MB IDE	213
250 MB IDE	225
340 MB IDE	283
540 MB IDE	540
340 MB SCSI	353
525 MB SCSI	495
1.2 GB SCSI	898

TAPE BACK-UP

COLORADO	
DJ10 120 MB	$118
DJ20 250 MB	158
WANGTEK	
250 MB SCSI	$369
525 MB SCSI	449
CONNER	
Tape-Stor 250 MB	$148

MONITORS

SONY	
1430S 14"	$568
1604S 17"	888
1730S 17"	968
NEC	
3FGE 14"	$588
4FGE 15"	688
5FGE 17"	1078
6FGE 21"	2388
IMPRESSION	
SVGA .39DP 14"	$189
SVGA .28DP 14"	228
SVGA .28DP NI 14"	246
VIEWSONIC	
6E NI 14"	$299
15 1280x1024	449
17 1280x1024	1035
20 1600x1280	1695
MITAC	
15 SVGA	$349

FAX/MODEM

ZOLTRIX	
2400B Modem	$35
96/24 Fax/Modem	58
14.4 Fax/Modem	138
U.S. ROBOTIC	
14.4 Int.	$165
14.4 Ext.	195

CD ROM

CREATIVE LABS	
Multi-Media Kit 1	$399
Multi-Media Kit II	449
SONY	
CDU 31A	$165
CDU 33A	210
TOSHIBA	
3401B	$389
TEXEL	
3028	$279

VIDEO CARDS

ORCHID	
Celsius w/1 MB	$215
Fahrenheit VLB	148
Fahrenheit ISA	145
DIAMOND	
Stealth 24 VLB	$148
Stealth Pro VLB	265
Viper VLB 2 MB	369
ATI	
Ultra Plus 2 MB ISA	$245
Ultra Pro 2 MB VLB	395
Ultra Pro 2 MB EISA	495
CIRRUS LOGIC	
SVGA VLB 1 MB	$84
TRIDENT	
8900 1 MB ISA	$58
9200 1 MB VLB	82

Warranty

- 1 Year Parts/Labor
- Lifetime Phone Support
- 30 Days DOA Exchange

Services

- Free On-Line Tech Services
- 72 Hours QA and QC Burn in
- Ship Within 48 hours (Unless specified)
- No surcharge for credit cards
- 3% Discount for cash purchase

Quality

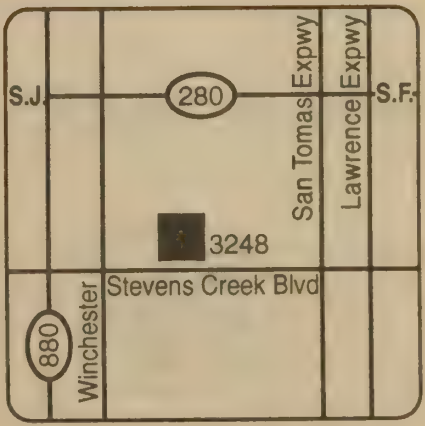
- Qualified Engineers
- Knowledgeable Staffs
- Reliable Parts (Tested) TEAC, Maxtor, NEC, Sony, ViewSonic OMNI, Orchid, Diamond, Genoa and Many More

Guarantee

- Customer Satisfaction is our one and only goal!

Terms:

- Freight charges are not refundable
- Damaged shipment is the carrier's responsibility
- Return items must have a RMA# -please call 408-249-3398
- All specifications & prices are subject to change w/o notice
- Dealer inquiries & government POs are welcome
- Credit terms are subject to approval
- Not Responsible For Typos



In Touch With Tomorrow's Consumer

The Los Angeles Computer Fair

March 18, 19, 20, 1994

Los Angeles
COMPUTER
FAIR

The Nation's Largest Direct-to-the-Consumer Computer Show
Fairplex Expo Center, Pomona, California

Friday, March 18: 11 am to 8 pm
Saturday, March 19: 10 am to 6 pm
Sunday, March 20: 10 am to 5 pm

Computer Fair Three Day Pass including Seminars: $15
One Day Pass including Seminars: $10

Come see, compare, and learn more about hundreds of products. Take advantage of special show pricing, great bargains, and FREE seminars while building your knowledge base.

Showcasing:

- 1st Annual Computer Hall of Fame Awards
- VAR & Consultants Registries
- Charity Computer Collectibles Auction
- Office Of The Future
- Charity Chili Cook-Off
- Venture Capitalist Registry
- Resume Registry
- Leading Manufacturers
- The Technology Arena
- Charity Computer Auction
- Product Tutorials - "How To Make Money with your PC" Seminars

Plus much, much more...

Presenting: **Opening Day Keynote:** ***Jerry Pournelle,***
Senior Contributing Editor,
BYTE Magazine

Speakers:

JPL
General Motors
Walt Disney Company
Electric Light & Sound
Toshiba
IBM
Microsoft
Lotus
Hewlett-Packard
Borland
Broderbund
Compton's NewMedia
Knowledge Adventure
Traveling Software
Plus many more...

If you're looking for great buys and solid information, the Los Angeles Computer Fair is the place to be. Look for us in Los Angeles in March, '94 and Atlanta in October, '94.

"How To" Seminars and Demonstrations by leading manufacturers including Microsoft, IBM, Compton's NewMedia, Broderbund, plus many more... are also available to exhibiting companies.

Call For More Information
1-800-800-5600

Presented by National Productions, California's leading producer of computer shows for over ten years.

Co-Sponsors:

MICROTIMES California's Computer Magazine

MOBILEOFFICE MAGAZINE

PIBMUG Pasadena IBM Users Group

NP

National Productions, Inc.
16175 Monterey Road, Ste. 4
Morgan Hill, CA 95037
TEL (408) 778-5200
FAX (408) 779-1374

continued on page 134

Andy Hertzfeld:

"Computers are so malleable, and semiconductor progress is such that there's so much more memory every four or five years that the rules have to be rewritten."

that level, and the personal computer was a great solution. As a matter of fact, the first evening I got my Apple II, I remember the pleasure of just turning it on and turning it off. Turning it on, turning it off. I was in control of it. It was all mine. It was the first computer I could do that with."

Things have progressed a good deal since, thanks in some measure to Hertzfeld's work on the Mac. He says, "I want to bring to people who are not technically inclined or skilled the same joy that I got from getting my first personal computer and finding that it was an incredible medium for reflecting my thoughts and desires. An empowering tool. I want to bring that to everyone."

What was the theory behind making the Macintosh work like it did?

We wanted to make it more accessible to people. Which is to say, make it easier to use.

The basic way we made it easier to use was by removing abstraction and making it seem more concrete.

That's what people have the hardest time with, abstraction. Everyone can use things in the real world, because things are very solid and real. The realm of ideas is a lot harder for most people to get a handle on.

What the Macintosh did, through its desktop metaphor, is give the files a tangible existence. Even though we know that they're still abstract, that the little icons are not the files, users are seduced into thinking they're the files. And then when you drag it off into the trash, "Oh, I'm grabbing the file!" with my sort of proxy hand, the mouse, and dropping it in the trash can. It's easy because it's concrete. It's not abstract.

The other thing is if you use any kind of command-line interface, you have to keep all the possibilities in your head at all times, whereas the graphic user interface puts the possibilities right in front of you. And so with Magic Cap, we're just taking that concreteness to a new level, with a metaphor that emulates the real world.

People can bring their lifetime of intuition and experience that they've been building up about the real world to the world on the other side of the screen. They know how to use it before they ever experience it, if we've done our job well enough.

What's possible now that wasn't possible ten years ago?

Well, I would say that the key thing the industry has discovered is object-oriented programming, that there's a way of building large systems by encapsulating the complexity, but also building systems that are uniquely configurable, that are not all bound at compile time. They can be changed. They also can be open, the functionality can be added in much smaller granularity than you could without the object-oriented programming. And so Magic Cap exploits that to do a much better job than we could have done with the Mac.

That's part of it. The other part of it is, of course, Moore's Law and all—where a megabyte was way too much for the original Mac to have, it's a small amount these days. The Magic Cap products will typically ship with about 4MB of memory, which is thirty-two times the amount we had for the original Macintosh.

What do you see people using these things for?

The basic thing is messaging. With personal computers, the very essence of them is making documents that are ultimately destined for paper, more or less. Computers are a medium, and it's really limited just by the creativity that the person brings to it, but the Magic Cap devices are very centered on providing a graceful way of communicating.

The telephone's wonderful, and in no sense can we replace it, but we can augment it. The telephone requires your full attention. It's this jarring real-time thing—usually when the phone rings you get a little nervous, you have to shift your thoughts, collect your thoughts, to be able to engage in a dialogue with someone.

I couldn't take a phone call and be talking with you right now, or be in any type of meeting, because the phone preempts my attention. The alternative of writing a little electronic postcard can be done while you're carrying on a conversation with anyone else, while you're listeing to something else; it doesn't demand your full attention.

So we think that's a great way to augment communications and give people this alternative. The etiquette will be different because of the fact that it doesn't require your full attention. The etiquette will say that it'll be okay to send things to people you don't know as well, because it won't bother them nearly so much.

How are you working with third-party developers?

We have about thirty products in the works.

We feel we're working for the customers—we are working for the people who will buy this, but one important way we're working for them is by concentrating a lot on making it a platform and working with the third-party developers. It's very near and dear to our hearts.

It came from our experience at Apple, where we saw time and time again that even though Apple made a brilliant system, it wasn't Apple that came up with the breakthrough applications.

It's fun to make a product, but it's exhilarating to make a platform that takes root. You've done an enormous thing if you can make a great platform that unleashes the latent creativity in people that didn't even know it was there. And I think we did that to some degree with the Mac; Bill with HyperCard kind of had that experience in a smaller sense, it wasn't a whole platform, it was a sub-platform,..

But it's very rewarding to empower people.

Do you see that most of your developers are going to come from people who have existing applications on computers, or people who start from scratch with this new paradigm?

Well, there's long term and short term. There's certainly both. In the short term, it'll mainly be people that are already engaged in some kind of activity with computers, because they will be the first ones to see the value. It's easy for them, because they've been doing something similar to it.

Eventually, if they are the only people who are able to produce content, I don't think we will have succeeded, because that's too limiting. We need to refine the tools to the point where an ordinary person who can't even use a Macintosh, much less program one, can supply content in our system. Write a newsletter. Sell something. Set up an electronic market for whatever your business endeavors are. We have to make it as easy for those people as it is to run their store non-electronically.

Suppose somebody is in that position today, doing a stock-quotes letter that they're sending out via fax. And they want to move to this new platform. How hard is it?

They would be a little bit frustrated today. We need to build out the platform.

We actually have two platforms at General Magic, Magic Cap and Telescript, and both of them are sort of nascent at this point. They sort of exist, but barely. The designers see the future in front of them, but we have to build out that future, and it's going to take a few years.

Not just General Magic, but the third parties are important at building those tools. The hardy third parties who can deal with the initial lack of tools can build tools that will pave the road for the subsequent ones, and it'll build on itself.

Some of the fundamental tools probably have to come from General Magic because we're the center of the expertise, but ultimately there will be more tools coming from outside of General Magic, just because the world is a lot bigger than General Magic.

I think it's going in the right direction, it's got a great start, but mostly the

New Generation of American Network Solutions

ISC Computers & Communications, Inc.

Network Products for Servers & Workstations

MICROSOFT CONSULTING CHANNEL Alliance

3Com

Allied Telesis Inc

ACER

InterNet RESELLER PROGRAM

DigiBoard

Lotus BUSINESS PARTNER

TELEBIT

USRobotics

WordPerfect CORPORATION

SynOptics Communications, Inc.

intel

Maynard An ARCHIVE Company

HEWLETT PACKARD

- HP 9000 practical Business Workstations
- HP 715/33 PA-RISC Workstation..........................$5390
- HP DesignJet 600 Plotter/DraftPro DXL/EXL..........$call
- HP NetServer 4d/66 LM w/16Mb, 1Gb.................$5499
- HP LaserJet 4si MX for Multiple platforms Networks.
- HP 735 High-End Workstation..............................$call
- Call for HP/CA-UNICENTER information.

SunSoft

A Sun Microsystems, Inc. Business

- Multiuser, multitasking, open-system. Industry standards.
- Support MS-DOS Compatible applications.
- SunSoft Interactive Unix SVR3.2.4 Single/Multi...$325/595
- Solaris 2 X86 1-2user/Workgroup Server $539/1398
- SunSoft ProWorks C, C++, FORTRAN...............Call
- WABI(Windows Solaris)..................................Call
- Best PC Interactive SunPC.......................................Call

Santa Cruz Operations

SCO AUTHORIZED RESELLER

- SCO UNIX Supports Netware, DOS, Windows.
- Open Server Enterprise..$1605
- Open Desktop..$945
- Open Desktop Lite...$705
- Open Server Network systems..........................$1375
- TCP/IP Dev...$289
- IPX/SPX..$360
- MPX...$1085
- Open Desk Top Dev..$1240

COMPUTER ASSOCIATES

Software superior by design.

- Call us to computerize your accounting, marketing and connect system with CA office automation products.
- Computer Associate-Accpac Plus Accounting
- Authorized Consultant and Qualified Installer avail.
- Fully client-server setup or stand alone systems.
- Thousands of vertical market add-in products.
- Supports Novell, Lantastic, OS/2, and more....

Tech Support Hotline:

(800) 998-4394

Tel: (408) 227-2286 • Fax: (408) 227-3086

Corporate/School PO and RFP welcome

Apple Update

Authorized Reseller

- Upg. your Quadra 900 or 950 to AWS 95, AWS 95 PDS Card Upg. Kit................................$2219
- AWS 95 PDS Card /DDS-DC Drive Upg. Kit.........$3909
- AWS 95 32MB, 1GS, 4mm TBDR, 512K Cache, A/UX, Apple-Share Pro, Lifetime 24 x 7/1 year on-site support..$call
- DAL Client V1.4 Sngl Kit/10 usr Liens Kit........$125/775
- Apple-Search Cint 10 User/ Srvr Cint 5 usr...$395/1388

Monthly Special

- Digital 150MHz 6 TIMES FASTER THAN PENTIUM ON WINDOWS NT ENTRY LEVEL................$4789

PCI Super Pentium System

- PCI/ISA Bus MB w/256k, Pentium-60Mhz CPU, 16/520MB PCI SCSI-2 HFC, PCI SVGA 1MB Upg. 2MB, UART IO, 14" SVGA NI 1280 x 1024 Monitor...$3289

Servers... Workstations...

Multi-platform Services

- Free Initial consultation Hot Line
- Best price on Networking peripherals & systems
- Network system design/training
- Modem/Phone/On-Site support
- Data/Voice/Fax/WAN Networks
- Hundreds of network applications available
- Scheduled maintenance
- Multi-platform connectivities.

ISC Computers & Communications, Inc.

23 Great Oaks Blvd.. Suite E, San Jose, CA 95119
Free initial consultation

NOVELL

- Netware V3.12(10/25/50).............**$1299/2069/2778**
- Netware V3.12(100/250CD)......................**$3968/Call**
- Netware V4.01(5/10/25/50)....**$845/1815/2665/3430**
- Netware V4.01(100/250)........................**$4989/8898**
- Netware Connect(Dial in/out)2/8/32port....**$495/1795/5125**
- We are SFT III specialists, call us to set up Your ZERO-downtime mission critical servers.
- Novell DOS 7.0..$89
- Personal Netware...$89

UNIVEL™

- The Easiest Netware/Unix Integration ever..........
- UNIVEL SVR 4.2P.E/Utilities (CD-ROM).....$189/89
- UNIVEL Applications Server............................$925
- UNIVEL Development Kit.....................................$89
- UNIVEL Unixware NFS V1.1.............................$179
- LAN Workgroup (5/10/20)..........$1119/1490/2399
- NFS Gateway-(5/10/50 usr)...........$995/1695/3285

Lotus®

- Increase productivity by 400%. LOTUS NOTES. Consultant on call.
- Lotus Notes Starter Kit..............................$829
- School/Educ. Institutions please call for best ACADEMIC cross-platform Lotus software pricing
- CC. Mail DOS/WIN.........................$199/315
- CC. Mail UNIX/OS2/MAC.......$599/329/329
- CC. Mail Router/Remote...............$829/189
- CC. Mail Client 10/25/100.....$229/538/2069

Microsoft Update

- Win. for Workgroup 3.11 Win. Add-on..................$48
- Win. for Workgroup 3.11(Win. 3.1 & Netwark Soft)......$159
- Win. NT /Win 3.11 to Win NT Upgrade.....................$308/275
- Win. NT Advance Server/LAN Manager Upgrade........$999/559
- SOL Server for NT(Workgrp. 10 Node).........................$1998
- SOL Server for Windows NT..$699
- We are Microsoft Solution Provider to offer authorized services.

Fastest Network Starter

- **The Best Workgroup 3.11 Energy Svng Wrksttn** 486/386 3VLB GREEN Board w/P24T, 40MHz CPU, 4MB RAM, 214MB HDRV, 1.2 & 1.44 FDRV, VLB IDE/Super IO, VLB SVGA Card w/1MB, SVGA NI .28 1280 x 1024, 10BT ENet Card, 50FT 10BT Cable, Dos 6.2, Win.3.11 Adon...................$1538
- 8 Port 10BT with 1 BNC BackBone..............................$212 Call us to find out how we can integrate your workstation.

adventure is ahead of us.

Sort of like when the Macintosh first came out, you had to write your apps in Lisa Pascal, and eventually you got HyperCard?

That's right. With almost any new platform, I think, you'll see a paucity of tools, a paucity of initial applications. Platforms have to be designed for the future because otherwise they're not worth anything. So it takes a couple years for them to pick up steam.

Some companies have licensed Telescript, some Magic Cap, and some both. What's the differentiation?

Each company brings their own interest.

Telescript—almost everyone is interested in it, because its very nature as a communications standard means ubiquity is essential. No one wants warring comm standards that are similar but different.

But in terms of the device platforms, because they're not fundamentally communicating, they're an operating system for a device, they can coexist. There can be a plethora of different standards.

I would say that whereas most of the companies investing in us are committed to Telescript, only some of them are committed to Magic Cap, because those same companies have other device platforms that they control and they would like to see win over Magic Cap—obviously, Apple with Newton, obviously AT&T and PenPoint are the two that stand out.

Where do you see the devices going?

Oh, in many different directions. I think they'll get both bigger and smaller. There's an obvious need for something you carry around with yourself to be as lightweight and fit into your life as easily as possible, so it has to get smaller and less heavy for that. On the other hand, you'll see some things that are deskbound, the technology will be good in that situation. A postcard answering machine, for example. I think you'll see fax machines go in that direction somewhat, to be able to become sort of almost personal services.

We work hard to help each licensee who adopts Magic Cap to integrate some of their own specialness into the product, some of their core expertise. So you can expect Motorola to explore the area of wireless devices more than others, because that's what they're good at.

This is completely hypothetical, but if we had a licensee like Kodak or Canon, you could expect them to make a Teletouch that was a camera. That would be great.

We want to find licensees who bring something to the party, who have a technology they've mastered that is unique in our mix. We'll encourage them to create a product built around that.

You've said that you essentially decided not to deal with handwriting recognition right now. Why?

It's really very simple—the handwriting technology doesn't work well enough to meet the expectations of the kind of customer we're going after. Perhaps industry cognoscenti who realize how difficult a problem it is can be pleased with the fact that they got it to almost work, but end-users used to flawlessly recognizing a lot of handwriting themselves—they don't understand it's difficult, they just think it's broken.

We had to make this call a long time ago. Bill was really the main one who made the call about four years ago—we had to predict "in four years, will the handwriting be up to snuff?" And as you know, technological years are kind of like dog years—that's like predicting twenty-five years ahead in the mainstream future of the world. That's hard to predict anything out that far. But we made a good call.

The reason it's so hard, and people don't realize this—you're using a great fraction of your entire life experience when you're recognizing handwriting. It's not just recognizing letters, it's what words, what are the surrounding words—common sense.

Is there anything intrinsically incompatible between handwriting technologies and Telescript and Magic Cap?

No, absolutely not.

At the basic level of digital ink, we've embraced the Jot standard proposed by Slate as part of our interplatform content format, so that's how Telescript can carry the ink between platforms. And Magic Cap is extraordinarily extensible,

COMPU DATA

CD NETWORK SOLUTIONS

- Professional Network Design
- Software & Hardware Configuration & Set-Up
- Unlimited Support
- On-Site Service Training

LANtastic
ARTISOFT INC.
FIVE STAR DEALER
Microsoft WINDOWS FOR WORKGROUPS
NOVELL.

No Payments Until June 1, 1994
When You Buy Anything from CompuData!*

For Every CompuData System You Purchase
We Will Donate $20.00 *Upon Approval
to the San Francisco AIDS Foundation

CD SERVICE SPECIALISTS
Repair, Installation,
Diagnostics, Trade-Ins

CD SPECIAL CD SYSTEMS

CD 486SLC2-66MHz
•IBM Alaris MB
•64K Cache
•4MB RAM
•270 Quantum HD
•1.2MB Floppy
•1.44MB Floppy
•SVGA 14" .28 Dot
•SVGA VLB w/1MB
•101 Keyboard
•Mini Tower Case
$1188

CD 486SX-25
•256K Cache
•4MB RAM
•270MB Quantum HD
•1.44MB Floppy
•VGA Monitor w/VGA Card
•101 Keyboard
•Mouse
•Mini Tower
$979

CD NOTEBOOK SPECIALS

IBM Thinkpad 300
•386SL-25
•4MB RAM
•120MB HD
$1250

COMPAQ LTE LITE
•386/20MHz
•2MB
•60MB HD
$1175

COMPAQ PORTABLE
•486DX-33
•4MB RAM
•120MB HD
$1999

AVANTI 425C
•486SLC/25MHz Color
•4MB
•120MB HD
•Fax/Modem
$2199

HYUNDAI 486SLC-33
•Passive Color
•4MB RAM
•170MB HD
•1 PCMCIA Slot/Trackball
$2279

TOSHIBA 4400SX
(Demo)
•486SX
•2MB
•120MB HD
•Mono
$1499

COMPAQ CONTURA
•386SL-25
•4MB RAM
•60MB HD
$1175

IDENTIFY 486DX-33
•4MB RAM
•210MB HD
•Color Dual Scan
•2 PCMCIA Slots/Trackball
$2499

CD BLOWOUT SPECIALS

•Compaq DeskPro 386/33 4MB RAM, 84MB HD	$999
•Compaq DeskPro 33i 486DX-33 4MB RAM, 85MB HD	$999
•HP 5 Gig SCSI Tape Backup	$999
•Archive 2 Gig SCSI Tape Backup	$999
•Radius Precision 19" for PC or MAC	$1499
•Diconix 180 SI Inkjet printer	$199
•Okidata ML 321	$350
•Okidata ML 393C Plus	$599
•Mountain FS 8000 Tape Backup	$249
Ven-Tel 9600 Plus Modem	$89
Wacom 12x18 Tablets	$499

COMPU DATA

"A NAME TO TRUST" OUR SEVENTH YEAR IN BUSINESS

22 Third Street
San Francisco, CA 94103
415/495-3422
Mon thru Fri 9:30-6:30 ; Sat 11:00-5:00

Now More Conveniently Located to Serve You Better

Best Financing. 90 Days Same as Cash.
Approval Within Minutes

MasterCard AMERICAN EXPRESS VISA DISCOVER

Prices subject to change without notice. Limited to stock on hand.
Not responsible for typographical errors. IBM is a registered trademark of International Business Machines

HI-TECH USA

(408) 262-8688 Milpitas
(415) 508-8688 San Carlos

SUPER SALE	M/B + CPU	* BASIC SYSTEM	BASIC SYS +40MB HDD + MGP CARD & 14" MONO MONITOR {120MB HDD ADD $40}	BASIC SYS + 40MB HDD + VGA CARD & VGA MONO MONITOR {120MB HDD ADD $40}	BASIC SYS +120MB HDD + VGA CARD & VGA COLOR MONITOR {170MB HDD ADD $40}	BASIC SYS +120MB HDD + SVGA CARD & SVGA MONITOR {170MB HDD ADD $40}	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +120MB HDD +SVGA CARD & MONITOR {170MB HDD ADD $40}	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +200MB HDD +SVGA CARD & MONITOR {250MB HDD ADD $30}	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +340MB HDD +SVGA CARD & MONITOR {540MB HDD ADD $150}
PENTIUM P5-66/256C VLB	$1,348	$Call	$Call	$Call	$Call	$Call	$2,048	$2,088	$2,158
PENTIUM P5-60/256C VLB	1,148	Call	Call	Call	Call	Call	1,848	1,888	1,958
486DX2-66/256C PCI	678	Call	Call	Call	Call	Call	1,378	1,418	1,488
486DX-33/256C PCI	498	Call	Call	Call	Call	Call	1,198	1,238	1,308
486SLC2-66/64C IBM VLB	254	394	614	654	764	784	954	994	1,064
486DX2-66/128C VLB	458	608	618	858	968	988	1,158	1,198	1,268
486DX-50/128C VLB	408	568	768	808	918	938	1,108	1,148	1,218
486DX2-50/128C VLB	328	488	688	728	838	858	1,028	1,068	1,138
486DX-40/128C VLB	308	442	668	708	818	838	1,008	1,048	1,118
486DX-33/128C VLB	288	440	648	688	798	818	988	1,028	1,098
486DLC-40/128C VLB	158	318	518	558	668	688	858	898	968
486DLC-33/128C VLB	148	308	508	548	658	678	848	888	958
486DX2-66/128C NICE EISA VLB	628	778	988	1,028	1,138	1,158	1,328	1,368	1,438
486DX-50/128C NICE EISA VLB	588	728	948	988	1,098	1,118	1,288	1,328	1,398
486DX-33/128C NICE EISA VLB	408	568	768	808	918	938	1,108	1,148	1,218
486SLC2-50C IBM ISA	160	320	520	560	670	690	860	900	970
486DX2-66C ISA	438	588	798	838	949	963	1,138	1,178	1,248
486DX-50C ISA	394	564	754	794	904	924	1,094	1,134	1,204
486DX2-50C ISA	298	458	958	698	808	828	998	1,038	1,108
486DX-40/128C ISA	304	440	994	704	814	834	1,004	1,044	1,114
486DX-33C ISA	268	428	628	668	778	798	968	1,008	1,078
486SX-33C ISA	160	318	520	560	670	690	860	900	970
486SX-25C ISA	134	288	494	534	644	664	834	874	944
486DLC-40/64C ISA	144	304	504	544	654	674	844	884	954
486SLC-33 ISA	92	248	452	492	602	622	792	832	902
386DX-40/64C	92	234	452	492	602	622	792	832	902
386SX-40	70	226	430	470	580	600	770	810	880
386SX-33	64	218	424	464	574	594	764	804	874

* **BASIC SYSTEM CONFIGURATION:** Motherboard & CPU, 1MB memory installed, 1:1 2HD/2FD controller with 2S/1P/1G. 1.2MB or 1.44MB Floppy Drive, Internal Clock/Calendar, Enhance Case with Power Supply, and 101-Key Enhanced Keyboard.

VESA MULTIMEDIA SYSTEMS

- 128KB/64KB Cache Memory
- 4MB High Speed RAM
- 1.2MB & 1.44MB Floppy Drive
- VLB IDE controller w/2S/1P/1G
- 200MB Fast IDE Hard Drive
- Cirrus Logic VLB w/1MB
- 14" SVGA .28 Color Monitor
- Medium Tower Case w/Power Supply
- Focus 2001 Keyboard
- Double Speed CD-ROM
- Deluxe Speakers
- Sound Blaster Pro Deluxe
- Free CD Deluxe Pak (4 Titles)

486DLC-33 VLB	**$1,268**
486DLC-40 VLB	**$1,288**
486SLC2-66 VLB	**$1,398**
486SX-25 VLB	**$1,298**
486DX-33 VLB	**$1,398**
486DX2-66 VLB	**$1,648**

UPGRADES

• 250MB Hard Drive	Add $20
• 340MB Hard Drive	Add $60
• 540MB Hard Drive	Add $220
• 14" Non-Interlaced Monitor	Add $20
• 15" Non-Interlaced Monitor	Add $120
• 17" Non-Interlaced Monitor	Add $380

Best Prices in Town!

DELUXE SYSTEMS

386SX-33	$768
386SX-40	778
386DX-40/64K	788
486SX-25/128K	868
486SX-33/128K	898
486DLC-40/64K	848
486SLC2-50 IBM ISA	878
486DX-33/128K	978
486DX-40/128K	998
486DX2-50/128K	1,008
486DX-50/128K	1,108
486DX2-66/128K	1,128
486 DX-33/128K NICE EISA VLB	1,098
486DX2-66/128K NICE EISA VLB	1,328
486SLC2-66/64K IBM VLB	948
486DLC-33/128K VLB	848
486DLC-40/128K VLB	868
486DX-33/128K VLB	988
486DX-40/128K VLB	1,008
486DX2-50/128K VLB	1,018
486DX-50/128K VLB	1,118
486DX2-66/128K VLB	1,138
486DX-33/256K PCI	1,218
486DX2-66/256K PCI	1,398
Pentium P5-60/256K VLB	1,868
Pentium P5-66/256K VLB	2,048

SYSTEM CONFIGURATION

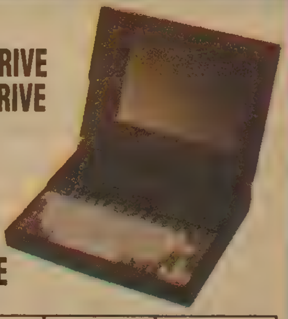
- Motherboard w/CPU
- 4MB RAM 70NS
- 120MB Fast Hard Drive
- 1.2MB and 1.44MB Floppy Drive
- IDE 2HD/2FD Controller w/2S/1P/1G
- 512KB SVGA Card
- 14" SVGA .28 Color Monitor
- 101-Key Enhanced Keyboard
- Enhanced Case w/Power Supply
- Microsoft Compatible Mouse w/Pad

UPGRADES

• 170MB Hard Drive	Add $40
• 200MB Hard Drive	Add $50
• 250MB Hard Drive	Add $70
• 340MB Hard Drive	Add $120
• 540MB Hard Drive	Add $270
• 14" Non-Interlaced Monitor	Add $20
• 15" Non-Interlaced Monitor	Add $120
• VLB IDE Controller	Add $20
• PCI Bus VGA Card w/1MB	Add $100
• 16BIT SVGA Card w/1MB	Add $20
• Window Accelerator w/1MB	Add $30
• Orchid Fahrenheit 1280	Add $100
• Diamond S.S. Pro VLB w/1MB	Add $70
• 250MB Tape Back-up	Add $130
• 16BIT Ethernet Card	Add $50
• Deluxe Speakers	Add $10
• Mitsumi CD-ROM w/Card	Add $120
• Double Speed CD-ROM w/Card	Add $160
• Sound Blaster Pro Deluxe	Add $100
• Mediavision Jazz 16	Add $120
• CD Deluxe Pak (4 Titles)	Add $25

BEST BUY NOTEBOOKS

- **4MB RAM**
- **120MB HARD DRIVE**
- **1.44 FLOPPY DRIVE**
- **1S / 1P**
- **BUILT-IN TRACKBALL**
- **BATTERY PACK**
- **CARRYING CASE**



Super Sales	VGA Mono	Dual Scan Color	Active Matrix Color
486SX-25	$1,288	$1,948	$2,728
486SX-33	1,328	1,978	2,748
486DX-33	1,468	2,118	2,888
486DX2-50	1,498	2,148	2,918
486DX2-66	1,688	2,338	3,098

UPGRADES

• PCM CIA Slot Model	Add $CALL
• Microsoft DOS 6.2	Add $50
• 8MB RAM	Add $248
• 200MB Hard Drive	Add $120
• 340MB Hard Drive	Add $330
• Internal Battery Pak	Add $95
• Internal Fax Modem	Add $124
• Pocket Fax Modem	Add $200
• Docking Station	Add $375

SUPER GREEN PENTIUM

- First and Only Green Pentium System
- INTEL Pentium CPU
- Made in USA Motherboard
- Power Saving Green PC
- 3 Buffer Enhanced Bus Master VLB
- AMI Flash BIOS
- 64-Bit Data Bus Memory System
- AMP Socket 4 ZIF Socket
- 8MB High Speed RAM
- TEAC 1.2MB & 1.44MB Floppy Drive
- VLB IDE controller w/2S/1P/1G
- Diamond Speed Star Pro VLB w/1MB
- 200MB Fast IDE Hard Drive
- Focus 2001 Keyboard
- Viewsonic 15E (15") SVGA Monitor
- Medium Tower Case w/Power Supply

Pentium P5-60/256K	**$2,478**
Pentium P5-66/256K	**$2,678**

UPGRADES

• 250MB Hard Drive	Add $20
• 340MB Hard Drive	Add $60
• 540MB Hard Drive	Add $230
• Diamond Stealth VLB 1MB	Add $40
• Diamond Viper VLB 2MB	Add $250
• 17" SVGA Monitor	Add $230

Why do smart customers keep buying from HI-TECH USA? Simply because we deliver the best values.

Call and join our smart customer list: ABC, ADAPTEC, ALLIED SIGNAL, AMD, AT&T, CIRRUS LOGIC, DATAQUEST, FLORIDA STATE UNIVERSITY, GENERAL ELECTRIC, IIT, INTEL, LAWRENCE LAB, MAXTOR, NASA, NATIONAL SEMICONDUCTOR, PG&E, QUANTUM CORP, SEAGATE TECHNOLOGY, SIERRA SEMICONDUCTOR, STANFORD UNIVERSITY, SUN MICROSYSTEMS, U.C. BERKELEY, WESTERN DIGITAL, YALE UNIVERSITY, and many, many more.

HI-TECH USA — BEST PRICES, QUALITY & SERVICE IN TOWN

CASE WITH POWER SUPPLY

Mini Tower Case w/200W Power Supply	$42
Desktop AT Case w/200W Power Supply	46
Medium Tower Case w/230W Power Supply	70
Full Tower Case w/250W Power Supply	90

CD-ROM / MULTIMEDIA

Creative Labs	
Sound Blaster Pro	$90
Sound Blaster Pro Deluxe	96
Sound Blaster Pro 16 Basic	118
Discovery CD 8 Upgrade Kit	238
Discovery CD 16 Upgrade Kit	416
Edutainment CD 8 Upgrade Kit	416
Edutainment CD 16 Upgrade Kit	460
Diamond Sonic (AT / SCSI)	96 / 208
Mediavision Jazz 16 (AT/SCSI)	98 / 108
Mediavision Pro Audio Spectrum 16	114
Mediavision Pro Audio Studio 16	178
Orchid Gamewave Sound Card (AT)	148
Orchid Soundwave Sound Card (AT)	218
Chinon CDS535 (Int.) SCSI	314
Mitsumi CD-ROM (350MS) w/Card	118
Mitsumi CD-ROM (Double Speed) w/Card	158
NEC CD-ROM 84 (SCSI) Internal	326
Orchid CDS3110 (Double Speed) w/Card	188
Panasonic CD-523 w/Card	146
Panasonic CD-562 (Double Speed) w/Card	168
Phillips CD-ROM w/Card	108
SONY CD-ROM (Double Speed) w/Card	158
TEXEL	
DM3021 (SCSI) Internal	158
DM5021 (SCSI) External	238
DM3028 (SCSI) Internal	298
Toshiba XM-3401B (200ms) SCSI	324
Trantor SCSI Host w/Driver	50
Audio Pak (Sound Card, Speaker, Joystick, Earphone)	54
Deluxe Speakers	8

CD SOFTWARE TITLES

American Business Phone Book-1992	16
Animals v1.0 DOS	12
Arthur's Teacher Trouble	20
Atlas Pak v3.1 World/US	19
Battle Chess DOS	15
Beyond the Wall of Stars	19
Beauty & Beast MPC	12
Bring the World to Your Senses	11
Campton's Encyclopedia MPC	48
Carmen San Diego DOS	18
CD Deluxe Pak (Chess Master 3000, Mavis Teaches Typing, US Altas, World Atlas)	25
CD Game Pack II DOS	15
CD Storytime DOS	14
Chess master 3000 MPC	15
Composer Quest MPC	22
Desert Storm MPC/MAC	16
Dictionary of the Living World	23
Dinosaur Adventure	19
Family Choice/Britannica DOS	16
Family Doctor DOS/MAC	16
Family Education Collections DOS	16
Great Cities-Vol 1 / Vol 2 DOS	16
Jets & Props MPC	19
Jones in Fast Lane MPC	14
King's Quest V DOS	13
Kodak Photo CD Access	12
Language of the World	22
Loom From Lucas Film DOS	15
Macmillan Dictionary For Children	18
Mantis Experimental Fighter	15
Mario is Missing/World Atlas 3.2	15
Mavis Teaches Typing MPC	15
Mayo Clinic Family Health	16
Micropose Collection 4 Games	18
Microsoft Bookshelf MPC	50
Microsoft Works MPC	50
MIDI Music Shop	15
Mixed-up Mother Goose MPC	14
Monkey Island DOS	15
MPC Audubon's Mammals	14
National Geographic Mammals DOS	19
National Park	16
Ocean Digital Imagery VI DOS	18
PC SIG 12th Edition	19
Peter & Wolf MPC	12
Playing with Language (English)	19
Playing with Language (French)	19
Playing with Language (German)	19
Playing with Language (Japanese)	19
Playing with Language (Spanish)	19
Publish It 2.0 DOS	18
Secret Weapons/Luftwf DOS	14
Sherlock Holmes DOS	15
Sleeping Beauty	14
So Much Shareware II DOS	13
So Much Shareware III DOS	17
Sound Library MPC	11
Space Quest IV By Sierra DOS	18
Space Shuttle	18
Sport's Best (3 in 1) DOS	18
Stellar 7 DOS	14
Survey of Western Art MPC	24
The Right College	18
Time Almanac 1991 DOS	15
Time Table of History DOS	15
Tool Works Reference Library	18
Tool Works Encyclopedia MPC	38
Total Baseball DOS/MAC	16
US Atlas v3.1 MPC	14
US History DOS/MAC	16
USA Wars: Civil War DOS/MAC	24
USA Wars: Vietnam DOS/MAC	24
USA Wars: WW II DOS/MAC	24
USA Wars: Korea	24
Willy Bearnish The Adventure	15
Wing Command & Ult VI DOS	15
World Atlas v3.2 MPC	11
World View DOS	10

CONTROLLERS

IDE 2FD/2HD with 2S/1P/1G	$11
IDE with I/O for VESA Local Bus	26
Adaptec	
1542CF (SCSI)	172
1542CFK w/Kit (SCSI)	224
1742A EISA (SCSI)	318
2742 EISA (SCSI)	296
2742TK EISA (SCSI)	352
2742T EISA (Twin SCSI)	324
2842VLK EISA VLB (SCSI)	268
Asus EISA (SCSI)	258
Asus PCI (SCSI)	88
BusLogic 445S VLB (SCSI)	238
BusLogic 742K EISA (SCSI)	238
DTC 2290 EISA IDE	116
DTC 2280 ISA IDE	14
DTC 2270 VLB IDE	58
DTC 3290 EISA SCSI	416
Promise DC-200 IDE Cache Controller	90
Promise DC-420 VLB w/512K Cache	114
Promise DC-4030 VLB IDE Cache Controller	124

HARD DRIVES

120MB 19MS / 170MB 17MS IDE	154 / 178
212MB 15MS / 250MB 15MS IDE	190 / 208
270MB 12MS / 340MB 12MS IDE	216 / 250
420MB 12MS / 540MB 12MS IDE	298 / 398
200MB 15MS SCSI	238
340MB 13MS SCSI	338
540MB 12MS SCSI	458
877MB 12MS SCSI	638
1.0GB 13MS SCSI	768
2.0GB 13MS SCSI	1,098

KEYBOARDS

101 Enhanced Keyboard	$14
Focus	
FK2001 101-Key Click	32
FK7000 w/Trackball	42
FK8000 w/Calculator	40
FK9000 Programmable.	52
Keytronics 101-Key Enhanced	27
Mitsumi 101-Key Enhanced	15
Maxiswitch 101-Key Enhanced	23
Maxipro II Programmable	52
Northgate	
OMNI 101 NI / 102	64 / 64
OMNI Ultra T or F	86

MATH COPROCESSORS

387DX-40 (Tube/Box)	$32 / 50
387DX-33	48
387SX-33	46
387SX-25	44

MODEMS & FAXES

2400 Modem (w/9600 Send Fax)	$24
Fax Modem (9600 Fax/2400 Modem)	38
Fax Modem (14,400 Fax/14,400Modem) Int.	96
Fax Modem (14,400 Fax/14,400Modem) Ext.	138
Pocket Fax Modem (14,400/14,400)	196
Hayes Accura 14400 Fax Modem Int	218
Intel 14.4 Fax Modem Int/Ext	154 / 178
US Robotics	
Sportster 9600 Modem Int	136
Sportster 14400 Modem Int	138
Sportster 14400 Modem Ext	156
Sportster 14400 Fax Modem Int	139
Sportster 14400 Fax Modem Ext	159

MONITORS

14" Mono	$76
14" VGA Mono	96
14" VGA (640•480) .39	170
14" Super VGA 1024•768 .39	184
14" Super VGA 1024•768 .28 Int	206
14" Super VGA 1024•768 .28 NI	228
15" Super VGA 1280•768 .28	298
17" Super VGA 1280•768 .28	586
CTX	
14" Super VGA 1024•768 .28 Int	228
14" Super VGA 1024•768 .28 NI	248
CMS1561 15" 1024•768 .28	348
CMS1561LR 15" 1024•768 .28	368
CPS1760LR 17" 1280•1024 MPR II	678
Hitachi	
CM1584MV 15" 1280•1024 .28	440
CM2095 20" 1280•1024 .31	1,258
CM2187M 21" 1600•1280 Microp	2,042
MAG	
15F(LR) 15" 1280•1024 .28	462
MX17F / 17FG 17" 1280•1024 .26	830 / 840
NANAO (*After Manufacturer's Rebate)	
F340IW 15" 1024•768 .28	588
F550I 17" 1280•1024 .28	922 (822*)
F550IW 17" 1280•1024 .28	1,048 (1,018*)
T560I 17" 1280•1024 .25	1,568 (1,468*)
F560IW 17" 1280•1024 .26 TRIN.	1,268 (1,238*)
T660I 20" 1280•1024 .31	2,248 (2,148*)
F760IW 21" 1280•1024 .31	1,998
NEC	
3V 15" 1024•768 .28	520
3FGe 15" 1024•768 .28	564
4FGe 15" 1024•768 .28	664
5FGe 17" 1024•768 .28	1,044
5FGp 17" 1280•1024 .28	1,384
SONY	
1430 14" 1024•768 .25	528
1604S 17" 1024•768 .25	884
1730 17" 1024•768 .25	944
17SE 17" 1600•1280 .25	1,118
VIEWSONIC	
4E 14" 1024•768 .28	254
6E 14" 1024•768 .28	274
14E 14" 1024•768 .28	328
15E 15" 1024•768 .28	364
15 15" 1280•1024 .28	426
17 17" 1600•1280 .28	926
17G 17" 1280•1024 Green	758
8 20" 1280•1024 .28	1,398
20 20" 1600•1280 .28	1,488
21 21" 1600•1280 .26	1,738

MOUSE

3-Button Microsoft Compatible	$8
Logitech	
Cordless	81
Mouseman Serial/Bus	38 / 58
Trackman	74
Scanman 256	198
Microsoft Defender	24
Microsoft Mouse Serial/Bus	31 / 58

NETWORK

8 BIT Ethernet Cards (NE1000 Compatible)	$38
16 BIT Ethernet Cards (10 Base-T/Coax)	40
16 BIT Ethernet Cards (3-in-1 Combo)	45
16 BIT Ethernet Cards (Pocket for Notebook)	118
16 BIT Busmaster (NE2100 Compatible)	80
ANSEL	
P-NS2000-TA 10 Base-T & AUI	86
P-NS2000-3 10 Base-T & 2 & AUI	108
ARCnet	
4-Port Passive Hub	12
8-Port Active Hub	98
Bus Topology 8 BIT ISA Card	40
Bus Topology 16 BIT ISA Card	45
Star Topology 8 BIT ISA Card	40
Star Topology 16 BIT ISA Card	45
BootROM	
8 BIT or 16 BIT Auto Boot PROM	12
Hubs and Repeaters	
4-Port 10 Base T HUB	118
12-Port 10 Base T HUB	308
16-Port 10 Base T HUB	384
2 BNC Ethernet Repeater	182

PRINTERS

Citizen	
GSX-190 (9-Pin) / GSX-220 (24-Pin)	$158 / 188
GSX-230 / GSX-240 (24-Pin) Quiet	238 / 288
GSX-145 (24-Pin) Wide	358
Color Option for Citizen Printers	48/68
Panasonic	
KX-P1150 (19-Pin)	138
KX-P1123 (24-Pin)	160
KX-P2180 (9-Pin)	155
KX-P2023 (24-Pin) Quiet	198
KX-P2123 (24-Pin) Color Capacity	236
KX-P2124 (24-Pin) Color Capacity	318
KX-P2624 (24-Pin) Quiet Wide	398
Color Upgrade Kit KX-PCK11	48

TAPE BACKUP

Conner 250MB Int	$128 (w/tape ...$138)
Colorado	
DJ-10 Tape Back-up 120MB	88
DJ-20 Tape Back-up 250MB	148
KE-9 Ext. Kit for DJ-10/Dj-20	62
Tape QIC-80 3M DC2120	12
JT-10 Trakker 120MB Ext	278
JT-20 Trakker 250MB Ext	324
PT-10 Power Tape 1.0GB Int	648
PT-25 Power Tape 2.4GB Int	928
PT-50 Power Tape 4GB Int	1,148
Tandberg	
1GB w/Controller (SCSI)	668
2GB w/Controller (SCSI)	768

VGA CARDS

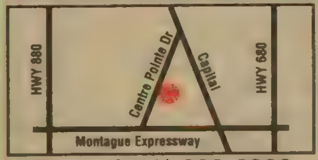
VGA256K / SVGA 512K 16 BIT	$28 / 38
SVGA 1MB 1024•768 16 BIT	56
Window Accelerators w/1MB	56
Cirrus Logic VLB w/1MB	70
Trident VLB w/1MB	70
ATI	
Graphics Ultra 1MB w/Mouse	148
Graphics Ultra Plus 2MB (ISA)	226
Graphics Ultra Plus 1MB / 2MB (VLB)	218 / 278
Graphics Ultra Pro 2MB (ISA)	298
Graphics Ultra Pro 2MB (VLB)	298
Graphics Ultra Pro 2MB (EISA)	328
Graphics Ultra Pro 2MB (PCI)	328
Diamond	
Speed Star Pro 1MB (ISA / VLB)	102
Stealth 24 VLB 1MB	138
Stealth PCI 2MB	234
Stealth Pro VLB 1MB (VRAM)	236
Stealth Pro VLB 2MB (VRAM)	298
Viper 2MB (VLB / PCI)	344 / 388
Genoa 8500 VLB 1MB	92
Number Nine (#9)	
Level 12 (ISA / VLB)	398
Orchid	
Celsius 1MB / 2MB VLB	188 / 248
Fahrenheit 1MB (S3-801) ISA	128
Fahrenheit 1MB (S3-805) VLB	136
Fahrenheit 1MB (S3-801) VA ISA	145

TERMS AND CONDITIONS

1. One year parts and labor warranty on systems.
2. Knowledgeable technical support engineers in service.
3. Prices and availability subject to change w/o notice.
4. Shipping, insurance and COD charges are extra and non-refundable. Prices reflect cash discounts.
5. Return shipping must be insured, prepaid and bearing an RMA# on the shipping label.
6. Defective items replaced or repaired at our discretion.
7. No responsible for typos.
8. All returns subject to 15% restocking fee and cover only Hi-Tech USA brand computers, excludes peripherals and software. No refunds after 30 days.
9. Superior reputation for service, quality and value.
10. Purchase orders are welcomed and subject to approval.

: Monday - Friday: 8:30am to 6pm / Saturday: 10am to 4pm

SOUTH BAY



Phone (408) 262-8688
1558 & 1562 Centre Pointe Drive
Milpitas, CA 95035 Fax (408) 262-8772

HI-TECH USA

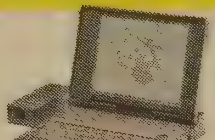
PENINSULA

Holly
El Camino Real
Industrial Road
US 101
Whipple Ave

Phone (415) 508-8688
9818 Industrial Road
San Carlos, CA 94070 Fax (415) 508-0383

WIT... THE LAST WORD IN HIGH PERFORMANCE!

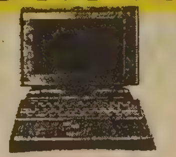
WIT HIGH PERFORMANCE NOTEBOOKS



486-SL50 VGA MONO w/4MB/120MB	**On Sale!**	**$1250**
486-SL50 VGA COLOR w/4MB/120MB	**On Sale!**	**$1650**

Upgrades:

Internal 96/24 Fax/Modem	$110
Battery Pack	$35
Per MB RAM	Add $50



486-SX25 PCMCIA Type III VGA MONO w/4MB/120MB	**$1380**
486-DX33 PCMCIA Type III VGA MONO w/4MB/120MB	**$1560**
486-DXII66 PCMCIA Type III VGA MONO w/4 MB/120MB	**$1680**

Upgrades:

200 MB HDD	Add $100
Dual Scan Color	Add $640
TFT Active Color	Add $1550
Ext. Packet 14400 Fax Modem.	$185

WIRELESS COMMUNICATION

Universal RJI Interface To The Cellular Network!

AXCELL is a small portable interface that provides you with immediate access to data through the cellular telephone network. Simply plug it in and you're in business, wherever you are. It's compact, lightweight and requires no external power source–providing universal connectivity with standard modems, faxes and other RJ11 devices. Features such as automatic dialing and answering make data transmission fast and easy.

$365

With Notebook Purchase

ONLY $315

WIT HIGH PERFORMANCE SYSTEMS

PCI 586-60 w/256K Cache	$1980
PCI 486-66/33 w/256K Cache	$1370/1250
WIT 486DX2-66/DX-40 w/256K Cache	$1210/1060
WIT 486DX-50/DX-33 w/256K Cache	$1230/1090
WIT 486SX-33/SX-25 w/256K Cache	$940/920
WIT 386DX-40/SX-40	$860/830

The Perfect Combination...Cutting Edge Technology and Affordability! These Great Systems Include:

- ✚ 4 MB RAM
- ✚ 1.2MB & 1.44 MB Floppy Drives
- ✚ 210 MB Hard Drive
- ✚ IDE FDD/HDD Controller
- ✚ 2 Serial/1 Parallel/1 Game Port
- ✚ Mini-Tower Case w/230W Power Supply
- ✚ 101-K Keyboard
- ✚ Windows Accelerator SVGA w/1 MB
- ✚ 14" SVGA .28 dp Monitor
- ✚ 72 Hour Burn-In & Fully Tested

(For VESA Local Bus With 32-Bit VLB & 32-Bit VLB SVGA Add $50. For PCI 586 w/PCI IDE & PCI Diamond Viper Add $365)

IBM TECHNOLOGY + AFFORDABILITY MAKES YOUR LIFE EASY!

IBM 486-SLC2-50/75 VLB.....$900/1320

(WIT Perfect Combinations)

IBM 486-SLC2-66/99 VLB.....$960/CALL

(WIT Perfect Combinations)

Systems Include:

•4 MB RAM •120 MB HDD •1.44 MB FDD •IDE & I/O Card •SVGA .28 Monitor •SVGA Card w/1 MB •101 Keyboard •Case w/Power Supply • (VLB IDE & SVGA Card Add $50)

MULTIMEDIA PRODUCTS

Sound Blaster Pro Deluxe	$115
Speakers Pair	20
Multi-Media Kit	325
Multi-Media Kit w/Titles	425
Mitsumi CD-ROM Double Speed	155
Toshiba CD-ROM 3401-B	355

DRIVES

170 MB IDE HDD	$185
210MB/250MB	200/220
270 MB/340 MB IDE HDD	240/280
420 MB/540 MB IDE HDD	400/450
Teac 1.2/Epson 1.2 FDD	48
Teac 1.44/Epson 1.44 FDD	42
Colorado 250 MB Tape Back-Up	170
Tape Cartridges	23

CONTROLLERS

ISA IDE 2FD/2HD w/2S/1P/1G	$15
VESA IDE 2FD/2HD w/2S/1P/1G	35
Vitex AT I/O (2S/1P/1G)	12
Promise ISA IDE Cache Controller	100
Promise VESA IDE Cache Controller	150
Adaptec 1542C SCSI Controller	190
Adaptec 1542CK SCSI II Controller	235
Adaptec 2842VLK VESA SCSI Controller	285
Adaptec 2742TK EISA SCSI Controller	380
BusLogic 545S ISA SCSI Controller	215
BusLogic 445S VLB SCSI Controller	245
BusLogic 742A EISA SCSI Controller	275

MODEM & FAXES

On-Line 2400 Modem w/9600 Send Fax	$30
On-Line Fax Modem 9600 Fax/2400 Modem	45
On-Line Fax Modem 14400 Fax/14400 Modem	115
On-Line Pocket Fax Modem 14400 Fax/14400 Modem	175

MONITORS

Eye-Q 14" Amber	$85
Eye-Q 14" VGA Mono	105
14" SVGA 1024x768 .39	190
14" SVGA 1024x768 .28	230
14" SVGA 1024x768 .28 NI	250
15" SVGA 1280x1024 .28 NI	340
17" SVGA 1280x1024 .26 NI	740
ViewSonic 6E SVGA .28 NI	290
ViewSonic 15 1280x1024 .28 NI	465
ViewSonic 17 1280x1024 .28 NI	985
ViewSonic 20 1600x1280 .28 NI	1625
ViewSonic 21 1600x1280 .29 NI	1860
ViewMagic 15" w/Microprocessor	385
ViewMagic 17".26 Tube w/Microprocessor	760

(Low Radiation Add $30)

Prices Subject To Change w/o Notice.

VIDEO CARDS

Monographic Card	$15
VGA w/256K	30
SVGA w/1 MB ISA	65
Cirrus Logic SVGA VLB w/1 MB	90
Diamond Stealth 24 VLB w/1 MB	155
Diamond Stealth Pro VLB w/2 MB	325
Diamond Viper VLB w/2 MB	375
Diamond Viper PCI w/2MB	400
#9 Level 12 ISA or VLB w/3 MB	415

MISC.

IBM 486-SLC II 99 VLB MB	$CALL
IBM 486-SLC II 75 VLB MB	645
IBM 486-SLC II 66 VLB MB	260
IBM 486-SLC II 50 ISA MB	175
(Math Co-Processor....Add $40)	
Pentium 586 w/256K cache Motherboard & CPU	1245
PCI 486 Motherboard w/o CPU	285
AT Desktop 230W Power Supply	40
AT Full Tower 250W Power Supply	45
PSII 230W Power Supply	35
XT 150W/UL Power Supply	35
Mini Tower Case w/230W PS	60
Baby Desktop Case w/230W PS	65
AT Full Desktop Case w/230W PS	85
Mid Tower Case w/230W PS	80
Full Tower Case w/250W PS	95
Power Surge Protector	6
Power Cable, IDE Cable or I/O Cable	3
1 MB RAM (each)	45
4 MB RAM (each)	160
CPU/Math Co-Processors	CALL
CPU Cooling Fan	15
3 Button Serial Mouse	12
Green PC Power Controller	CALL

CALL FOR OTHER ITEMS NOT LISTED

COMMITMENT TO SERVE YOU:

- •30 Day Money Back Guarantee For Software Incompatability on Complete System Purchases.
- •NO Restocking Charge
- •1 Years Parts/Lifetime Labor Warranty
- •Customized Systems
- •Government P.O.'s Welcome

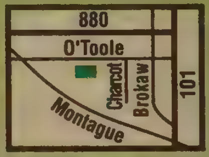
ALL AROUND SATISFACTION:

Stanford University, UC Berkeley, IBM, United Postal Service, Lockheed General Electric,

WIT

(408) 433-0188
Fax: (408) 433-0318•
Tech Support (408) 433-0709
Wang International Trade, Inc.
2073 O'TOOLE AVE.,
SAN JOSE, CA 95131

SYSTEM UPGRADES DIAGNOSTICS, & SERVICE AVAILABLE CALL FOR DETAILS



HOURS:
Mon-Fri: 9-5:30pm
Saturday: 10-3

and we expect some of the handwriting companies to integrate, although I don't know of any particular one working on a product right now.

We would only bundle handwriting into Magic Cap when we think it's right for the user, and I would have to say that that's at least a couple years off, if not longer. It's not in the predictable horizon.

The Mac team was a relatively small group of people working in relative freedom from outside pressures, whereas at General Magic you've got to work together with any number of investors and allies pulling you in different directions. How do you deal with that?

Part of what you're talking abut is what we sometimes call General Magic's third technology. Besides Telescript and Magic Cap, we have this technology that Marc is the creator and master of, called alliance management. What that is is, like with any customer, understanding their real needs. Not necessarily what they say, but what are the real dynamics behind the request—does it make sense, etc.

As a little company, trying to establish two platforms, we always will have more tasks than we possibly can do. There are a lot of things we'd like to do that we just don't have the resources to do, but we balance those and try to make the right decisions. In terms of working with these large companies, there's an art to it, basically, which is giving them what they need, but not necessarily what they ask for.

Can you give an example?

There are many different ones where we go round and round about different aspects of it, and basically having goals aligned, having values aligned, is what makes it work. All of the alliances committed to the same dream, and so where there's a will there's a way. So we just discuss it.

Sony has been one of the ones that has helped us the most in user interface design. They have come up with various complaints. One good example was that the text wasn't readable enough on the LCD display. We were using text, sometimes over light grey backgrounds. One of the things Sony encouraged us to do was bold text as much as possible, to make it more readable. They could see what we couldn't, because they were a little bit distanced from it. And then we talked about it. We had initial reservations because we had to think it through, but then we said, "You're right, we'll do it."

Speaking of Sony, what are the international issues you're dealing with, since your investors and licensees are pretty international?

Well, there's a variety of issues. Some of the investments have to be approved by government agencies, and that has occasionally taken a little longer than we'd like. There's various kinds of export restrictions.

Initially we're just trying to make this first wave of products for the North American market, so we don't have the Kanji localization initially, although that's in the architecture, we use 16-bit character codes and all of that. There's also some language problems, in terms, although I must say they're much better than we are. I never talk Japanese to them, their English is a lot better than my Japanese.

Basically I've found Sony to be just a pleasure to work with, again, because I think the values are aligned. They have a certain spirit in their products that I think resonates with what we want to do.

When you were doing the Mac, there was sort of this undercurrent of you were doing it right and the rest of the world, especially IBM, was doing it wrong.

That emerged as more of a marketing thing after the Mac was done. I think it's fair to say that we essentially ignored—we didn't think of the IBM PC as competition for the Macintosh, because it was clearly so inferior, basically. [*laughs*] We weren't looking at that; in no way was it a stalking horse.

We did get one in August of '81 when it came out. Steve was often tight with money, but he approved us rushing out and buying a 64K original IBM PC. We took it all apart.

We just made jokes about it, more or less. The funniest joke I remember was this game it came with called Donkey. It was this horrible low-res graphics game—it was a very clunky car game, and this donkey would appear at the road,

A FULL SERVICE BUREAU

COPYWORLD

Copying • Docutech • Desktop Publishing • Printing

Copying

High Volume/High Quality
Xerox Docutech Services
(multi-media server)
Canon Laser Color Copier
Oversize Copying
Blue Printing

Graphic Design

Full Service Design
Typsetting & Layout

Desktop

Agfa Accuset (up to 3000 dpi)
Tektronics Phaser IIIpxi (11x17 bleed)
Scanjet (600 dpi color scanner)
Postscript Laser Printer (600 dpi)
Mac LCII and IBM/PC
Accelerated Mac IIci & 44 meg Syquest
Cross-Platform File Conversions

Printing

Letterheads
Envelopes
Business Cards
Brochures
Newsletters
Manuals

Finishing

Full Bindery Services

3 Locations

2154 University
Berkeley, CA 94704
1.800.690.2679
Tel: 510.849.5798
Fax: 510.849.9784
Mon-Fri 8am
to Midnite
Sat-Sun 8am to 7pm

2431-C Durant
Berkeley, CA 94704
Tel: 510.841.6208
Fax: 510.841.6222
Mon-Fri 8am to 10pm
Sat-Sun 9am to 7pm

2565 Third Street,
Suite 334
San Francisco,
CA 94107
1 800 930 2679
Tel: 415 647-3507
Fax: 415 647-3211
Mon-Fri 8am to 7pm
Sat 9am to 5pm

Send us your data through Tele-network and we'll deliver it via Next Day Air Second Day Air or U.P.S.
Free pick-up and delivery

1-800-690-COPY

Efi's
DISCOUNT COMPUTERS

JUST A SAMPLE

Specializing in these quality products:
AST Research Inc.
Everex
Canon
Samsung
Mitsubishi Electronics
Toshiba
intel
Zenith
NEC
Iomega Makers of the Bernoulli Box
Acer

- NEW! Canon BubbleJet 200E, 2 year warranty $299
- AST Notebook 486SL25/ 33w/4MB, 200MB HD, Color, Windows, & Mouse 3795/3995
- Canon Laser LBP 430, 4PPM, 300dpi, 1MB, 2 year warranty 599
- Canon BubbleJet 600 color-unbelievable colors MUST SEE! 599
- AST Bravo 4/25S 730
- AST Bravo LC4/66, 200MB 1995
- NEC 5FGP Monitor 1189
- Texas Instruments Micro Laser Pro 600 w/6MB 1365
- Dual Speed AT CD-ROM w/ Sound Wave 32 High End Card and Four Titles 449

OKIDATA
IBM
COMPAQ
Advanced Logic Research, Inc.
ALPS AMERICA
Panasonic
EPSON
HEWLETT PACKARD
Hayes
CITIZEN

Fax for inquiries, price bids & purchase orders: (510) 283-1744
Free delivery and installation of systems within 30 miles. Free in-store installation of any product.
CALL US FOR YOUR PRICE ON ANY PRODUCT.
HOURS: MON-FRI. 9-5, SAT. 9-1
3441 GOLDEN GATE WAY, LAFAYETTE, CA 94549
(510) 283-1700
CALL BEFORE YOU BUY
We are actively seeking minority businesses supplying somputer products. Please Call!
Prices may change without notice. 90 day warranty on all products.

and if you didn't hit the button at the right time you'd crash into the donkey.

It was so poorly implemented, the whole concept of it was so bad, that we thought it was funny, until—because it was a BASIC program you could list it out, and we listed it out and we saw it was written by Bill Gates himself!

And that made us think it was doubly funny. Not even by himself, Bill Gates and someone else.

Do you have a sense with this project that you're essentially defining something new that nobody's out there doing?

No—well, in some sense. I think we're quite different—as you know, some of the handheld things that are roughly our price point and form factor have been out on the market for almost a year, and some of them are quite legitimate competitors.

I think there's nothing very close to our design center, which is based on communication using realistic, tangible metaphors. The others are all more similar to each other than they are to ours, which use a notepad metaphor, and are essentially in their heart of hearts—even though they might be described differently by the marketing teams—organizers. You can tell just from the basic design.

We're different, and I think there's a lot of spirit in our work that you don't see elsewhere.

I'm impressed by various aspects of the other platforms, and certainly there's room for more than one. I think it's actually good for the industry right now.

I guess it's obvious that the personal computer industry is a little bit weaker by having one standard be too dominant. I think you do want a strong standard, but in my mind the industry would be best if there were always sort of three standards—the one on its way out, the one coming in, and the one in the center. Maybe that one in the mainstream should have something like a 70% market share. That's healthy. Once you get something that's up in the 80–90% range, it starts squeezing out innovation.

That's unfortunate, because computers are so malleable, and semiconductor progress is such that there's so much more memory every four or five years that the rules have to be rewritten.

And I guess that's what's going to save us. I think. It's hard to maintain the hegemony generation after generation.

So what would you like to see devices be able to do for people that they can't now?

Well, for General Magic, one of the things that has to mature the quickest is the wireless technologies. I think that is truly magic—it's a qualitatively different experience, to be able to be connected with the world as you're walking around.

Again, some of that is nascent at this stage. It works only because there are so few customers. And we have the chicken-and-the-egg problem like anything—to build the infrastructure there's got to be customers, and you've kind of got to get the ball rolling. We have this concept of the success crisis that it's possible for General Magic to have—by getting so many people engaged initially, the communications infrastructures will collapse under that weight. And so we have to plan for that.

On the other hand, we have to plan on the opposite happening to us—slow growth and people not investing in the infrastructure enough to make it compelling enough to get the ball rolling. So we have to walk that tightrope.

But I think wireless is an area where a lot's going on, a lot needs to go on, and it's at the very core of the excitement about what we're doing.

Better LCD screen technologies, I think, will also help us. They're okay now, but they're still nowhere close to as good as paper in terms of contrast ratio. It's still the most expensive—it's something like the LCD screen is more than a quarter of the bill of materials of the device. Just one component. So a lot of evolution there will help us get the price down and make a better experience for the customers.

And then, the other thing we need is feedback from the customers. That's really the next threshold for General Magic, is to just get some customers and see what they really think. There have to be thousands of them. We've tested it on hundreds of people, but that's still a very small cross-section of the potential customers. So the next thing for us is to listen to what people have to say about really using it in real situations.

Did that happen with the Macintosh?

Oh sure. Well, it didn't have much of a chance to feed back before it shipped, but after it shipped, sure. And of course some people are dogmatic—Steve Jobs has never been great at listening. Neither am I for that matter. It's hard to.

I've been pleased so far at the positive reaction and enthusiasm. People seem to get it when they see it. They see that it's not just another oppressive gadget.

So I'm real excited. But again, it's not the beginning of the journey, it's like we've crossed the first really important threshold. But we've got a ways to go.

I'm surprised. I've been working really hard. I've always worked really hard, and I've been working harder than I've ever worked the last few years—I feel so much responsibility, and it's so worth working on. I'm surprising myself at this point, four years down the road and we're finally showing it to people, that I feel like working as hard as ever this year. It's still compelling me. I'm so excited about what's left to do that I'm working just as hard as ever.

The only way to design a good user interface is to iterate and iterate and iterate. We had a lesson in that at General Magic, just the style of our two teams. We have a comm team doing the Telescript language and the device team doing the operating system and user interface.

The teams had essentially different styles for a very good reason—communication protocols, since they're in agreement between multiple platforms, have to be incredibly rigorously defined, and so what we have to do to design them is kind of get the straw design and then just think about it real hard. Think of every possible alternative. The Telescript team did a lot of meetings without writing code.

On the user interface side, the only way to get something good is to try things out. I have a real feeling of having my hands on the clay—you don't know what it's going to look like, and each step tells you the next step to take. I don't think anyone is good enough at it to do that just in their mind. You really have to see it, and get people in front of it.

So you just take your best idea at the time, and you find victims to inflict it on, and you watch and see where they stumble, and you say, "Oh, there's a stumbling block. How do we get rid of it?"

The users are never going to tell you how to design it. They'll just tell you it's not good enough yet. They'll stub their toe and sprain their ankle on the various rough spots, and then say you'll have to get out your conceptual sander and get rid of that problem.

And of course by getting rid of that problem you could have created another problem. So you just iterate and iterate and iterate, and after literally tens of thousands of attempts, it gets usable.

What did people surprise you by having trouble with?

Just all kinds of things. People didn't understand the navigation initially, when we didn't have the name of the place you were going back to, we just had an icon that meant "step back." It turns out that was too abstract for people, even though I thought it was really clear.

At one time you even had a little stair-step that highlighted the different level of the stairs to show which of the four levels of navigation you were on. It was so clear—and no one had a clue what that was.

Luckily, as Bill says, "There's only one rule to user interface design: Make the user happy." Any other rules you might derive come from that basic principle. So that's what we do. We can't have too much pride in whatever our current design is, because it's almost certainly wrong for some person.

I do believe in giving people multiple paths, because everyone's mind works differently. Jef Raskin used to have something that he called the principle of monotony, which is there should only be one way to accomplish anything. I completely disagree with that. Because everyone brings a whole different lifetime of experience to it, there have to be different doorways for the different types of person.

So we carefully tried to do that. We look where people fell, and we try to get into their frame of mind—what were they thinking? Sometimes we have people kind of muttering under their breath—we encourage them to do that so we get more of a window into exactly what they're thinking. And then we can say, "Oh, I get it, this is their picture of the world, and that's why it's wrong." We just didn't understand someone would think of it that way. So often you could say, "Oh, I see, they're thinking of it that way, we could design it in such a way that both approaches work." Maybe it's a second way of doing things, but more

Over 20 shipping points NATIONWIDE!

FastLink Network Products

Network Products for Less!

VISA MasterCard

Coax Ethernet

3COM 3C503/16 ETHERLINK II 16-bit/5-Pack	174/847
3C523B ETHERLINK/MCA/5-Pack	300/1,303
3C509 ETHERLINK III/5-Pack/20-Pk	122/550/1,980
INTEL ETHEREXPRESS 16/5-Pk/20-Pk	115/499/1,869
INTEL ETHEREXPRESS 16 MCA	184
NOVELL/EAGLE NE2000 Plus	109
NE2000 Plus 3/5-Pk	129/421
NE2/2C 16-bit MCA	207
SMC ELITE ULTRA Coax/6Pk/24Pk	112/672/2,371
ETHERCARD ELITE/A FOR PS/2	198
ELITE 32 Dual Segment EISA Coax	657
3COM 3C579 32-bit Coax/5-Pack	247/1,042
EAGLE NE3210 32-Bit EISA CX & TP for WS	220
EAGLE NE3200 32-Bit EISA CX & TP	400
EAGLE NE2/32C 32-Bit MC	440
INTEL ETHEREXPRESS 32-Bit EISA	455

10 Base-T Twisted Pair Ethernet

MILAN Transceiver (AUI-BNC)/(AUI-RJ45)	49/49
3COM 3C503/16TP ETHERLINK II/5-Pk	184/800
3C509TP 16-bit/5-Pk/20-Pk	122/550/2,075
3C509 COMBO/5-Pack	145/612
3C523B 10 Base-T MC/5-Pack	336/1,536
INTEL TP/MCA/5-Pk/20-Pk	115/186/499/1,920
COMBO 16-Bit/5-Pack	131/622
COMBO (20-Pack)	2,208
FlashC 16-Bit/5-Pack/20-Pack	152/726/2,670
EtherExpress Flash 32 COMBO	249
SMC ELITE ULTRA 16TP/6-Pk/24Pk	112/632/2,371
ELITE ULTRA COMBO/6-Pk/24-Pk	132/751/2,845
ELITE 10T/A 10 BaseT MCA	198
ELITE 32T Dual Segment EISA TP	657
3COM 3C579 EISA 10BaseT/5-Pack	247/1,042

Token Ring

3COM Tokenlink III 16/4/10-Pk	471/4,478
IBM Token Ring 16/4 Adapter II	553
INTEL Token Express ISA 16/4	372
INTEL Token Express EISA/32	622
SMC Token Ring Elite Adapter 16/4	270
SMC Token Ring 16/4 12-Pack	2,900

FDDI

NATIONAL SEMI NF3000 ISA MIC/UTP	1,576/1,062
NF3500 EISA MIC/UTP	1,576/1,339

PCMCIA/Parallel Port Adapters

3COM 3C589 Etherlink III PCMCIA 10BT	262
3C589 Combo	315
3C589 Coax or 10BT Coupler	79
IBM Credit Card Ethernet Adapter	199
Credit Card 10BaseT Adapter	199
Credit Card Token Ring 16/4 Adapter	470
Credit Card 3270 Adapter	410
NATIONAL SEMI PCMCIA Ethernet Adapter	189
Additional Media Coupler for Thin/10BT	79
XIRCOM Pocket Adapter III BNC or 10BaseT	305
Pocket ENET III COMBO(BNC & 10BaseT)	330
Pocket Token Ring TYPE1/TYPE3	580
3270 Adapter for Parallel Port	439
Pocket Ethernet + 14.4 Modem 10BT/BNC	590
Credit Card Ethernet Adapter BNC or 10BT	290
Credit Card Combo BNC & 10BT	330
Credit Card Ethernet + 14.4 Modem 10BT/BNC	534

Wireless Adapters

ALPS RadioLan Parallel Port Adapter	444
SOLOTEK Wireless ISA Kit (2 cards)	1,494
PCMCIA Wireless Adapter	674
ISA Wireless Adapter	652
XIRCOM NetWave Access Point	822
NetWave PCMCIA or Pocket Adapter	410

Repeaters

TUT Systems XL1501 (Single unit)	1,029
XL600+ 600' Repeater (1 Pair)	500
Dual Port Repeater BNC/BNC	293
Quad/Octo Port Repeater (4 BNC/8 BNC)	440/809

Concentrators & MAUs

3COM Linkbuilder TP/12 *(Lowest price 12 port)*	426
ASANTE 8-Port Concentrator/12-Ports	255/518
ALLIED TELESIS 8 Port/12 Port	316/560
BOCA 8-Port Concentrator *(Lowest price 8-port)*	199
EXOS/MICRODYNE 16 ports	648
INTEL Int. TPE 12 port Hub ISA/EISA	599/679
INTEL Hub Expansion Board (12 add'l ports)	519
SYNOPTICS 2800A 16 port w/ AUI	734
SMC 3608TP 8-Port Concentrator/12-Ports	356/646
SMC Elite 4000C TR Mau 8-port/16-port	723/1,153
MADGE 8 Station Token Ring Hub	490
3COM Linkbuilder TR 3C510180	1,873
Linkbuilder TR 3C510182	3,161

SAVE ON THESE POPULAR BRAND NAMES !!!

Save over $1,000 on 3Com's Super Bundle, that's over 50% off the unbundled price! The Super Bundle includes: 5 Etherlink III TP0 adapters, 1 LinkBuilder FMS 12-port concentrator and Transcend Etherlink Smart Agent network management software.

3C509 TP Etherlink III as low as	$80
Ethernet Super Bundle	$1,080
Token Ring Super Bundle	$4,100

FastLink / 3Com Networking Super Bundle

All bundles include 3Com's Ethernet Super Bundle as described above, five 10 BaseT cables & corresponding networking software. 10 User bundles include 10 cables and 10 lan cards.

Novell Personal NetWare 5 Users	$1,235
Lantastic for Dos/Win 5 Users	$1,389
Lantastic for Dos/Win 10 Users	$2,420
Novell NetWare 3.12 5 Users	$1,578
Novell NetWare 3.12 10 Users	$2,990

SMC

Buy 2 SMC Elite Ultra 16TP 6-packs and a 3512TP or 3812TP 12-port concentrator and get another 6-pack FREE!

SMC Elite Ultra 6-pack	$632
SMC 3512 12-port concentrator	$653
SMC 3812 12-port concentrator	$706

Network CD-ROM Starter Kits:

Internal CD-ROM w/ MDI SCSI Express Software for DOS & Novell NetWare. Ext. Subsystem w/2 CD-ROM Drives, Terminator, Cable and SCSI Express Software.

SE6CDI-P	$299
SE6CDE2-P	$715

MICROTEST

An easy way to share CD-ROMs on your Thin Ethernet or 10BaseT network. Attach up to 7 CD-ROMs to one Discport. Comes complete with DiscView software for easy installation .

Discport	$599

HEWLETT PACKARD **CHEYENNE**

Buy a Hewlett Packard 4mm DAT tape drive with the award-winning Cheyenne Arcserve NLM for Windows software and receive a FREE 4mm Cleaning Kit and a DAT tape!

4MM 4-8GB Server Based (NetWare 2.2) Starting at	$1,768
4MM 4-8GB Server Based (NetWare 3.1X) Starting at	$1,579

SNMP Manageable Concentrators

ASANTE 1012 12 ports Hub	925
ASANTE 1701 12 Ports w/SNMP module	1,065
ASANTE SNMP Module for 1012	289
ASANTE View for Windows (In-Band/Out-of-Band)	710
ALLIED TELESIS 12 ports w/SNMP module	1,186
3COM Linkbuilder FMS TP Hub-12 ports	685
Linkbuilder FMS TP Hub-24 ports	1,200
DAVID SYSTEMS ExpressNet 12-port w/SNMP	1,248
HEWLETT PACKARD Ether Twist/12 ports	834
Ether Twist 24 ports/48 ports	2,090/2,673
NETWORTH 3/6/10 Slot Chassis	642/836/1,933
12 Port 10BaseT Module/Smart Module	1,234/1,791
24 Port 10BaseT Module/Smart Module	1,546/2,191
Tri-Segment Module 24 ports	1,546
Tri-Segment Module w/ Mgmt 24 ports	2,191
Tri-Segment Stackable 24 ports	1,299
Tri-Segment Stackable 24 ports w/ SNMP	1,999
Tri-Segment Management module (STMDB)	899
Token Ring Module	1,159
NetWare App. Engine w/o NetWare Runtime	3,026
NetWare App. Engine w/ NetWare Runtime	3,783
Hubview SNMP mgmt. software (Windows)	950
SYNOPTICS 2803 16 ports w/AUI	808
2804 16 ports w/Fiber Optics	1,177
2814-04/2814-05 16 ports	2,135/1,693
3000N 12 Slot Chassis	1,814
3308A 12 Port module	1,182
3314A-03 Mgmt. module w/ basic SNMP	2,064
3314A-04 Mgmt. module w/ advance SNMP	3,266

Tape Backup Solutions

CHEYENNE ARCserve VAP 5-10/ANY	430/766
ARCserve v5.01 NLM 5/10/25 users	254/510/890
ARCserve v5.01 50/100/250 users	1,082/1,181/1,536
ARCserve v5.01 500/1000	2,982/5,934
PALINDROME Backup Director NLM	569
Network Archivist NLM	1,224
Expansion Module (Doubles Capacity)	576
LEGATO NetWorker (Single Server)	555
COLORADO 2 GB SCSI Tape Drive w/Ctrl	1,055
Power Tape Ext-25 2 GB SCSI Tape Drive w/Ctrl.	1,251
Power Tape 50-4 GB SCSI Tape Drive w/Ctrl	1,664
Power Tape Ext 50-4 GB SCSI Tape Drive w/Ctrl.	1,870
CONNER Backup Exec NetWare 3.X/4.X NLM	658
Conner 7251QI 500 MB	520
EXABYTE FS1G Int. 1.5GB w/Ctrl	775
FS1G Ext. 1.5GB w/Ctrl	1,031

Novell Software

NetWare	CALL
Lan WorkPlace for DOS Single/10 Users	290/1,445
Lan WorkGroup-5/10/20 Users	1,125/1,866/2,613
NetWare for Mac 200 Users	685

Uninterruptible Power Supplies

APC BACK-UPS 250/400/450	140/175/210
BACK-UPS 600/900/1250	289/422/561
POWERCHUTE PLUS for Novell/Unix	99/149
SNMP Adapter for Ethernet	698
SMART-UPS 400/600/600RM/900	310/375/470/589
SMART-UPS 1250/1250RM/2000RM	736/869/1,376
MATRIX 3000 (3000 VA)	2,784
MATRIX 5000 (5000 VA, *Up To 24 hrs Uptime*)	4,137

Network Modems/Comm. Servers

ARTISOFT Articom Modem Sharing	236
GATEWAY Lan Expander 1-port/4-port	624/1,235
Lan Access 4MB/8MB	1,391/1,542
MICROCOM DeskPorte Fast 28.8 (v.FAST)	523
DeskPorte Fast 28.8 (v.FAST) w/Carbon Copy	576
MICRODYNE ACS for NetWare Connect	
ENET 4 ports w/ modems/ w/o modems	5,647/4,127
ENET 8 ports w/ modems/ w/o modems	CALL
MICROTEST Ethernet LANModem	1,439
NOVELL NetWare Connect 2/8/32 pts	415/1,583/4,077
SHIVA Net Modem/E 9600 BNC	1,567
Lanrover 4E/8E ports w/o modems	2,346/3,145
U.S. ROBOTICS Modem Sharing Kit V32BIS	532
Dual Modem Sharing Kit	937
Shared Access CommServ	1,495

Network Printing Solutions

CASTELLE Jetpress XIO BNC/10Base-T	381
Jetpress MIO for HP4/MIO PLUS	349/451
LANPress 10BT (1 PAR)	313
LANPress THIN/10BT (1PAR/1SER)	362
LANPress THICK/10BT (2 PAR/2SER)	512
DIGITAL PROD. NetPrint/150E 3 Parallel Ports	638
Jetxprint MIO for HP4	346
EAGLE NPE400 1 LPT, BNC & 10BT	292
INTEL Netport II for Ethernet	396
Netport II for 10BaseT/TR	415/587
NetportExpress XL for BNC/10BaseT	475
NetportExpress XL for Token Ring	660
MILAN Fastport 1P/1S, BNC/10BT	459
XIRCOM Print Server 1 LPT, BNC /10BT	300/333
Token Ring Print Server	580

Network Fax Solutions

CASTELLE FaxPress 1 or 2 Line,BNC or TR	1,526
CHEYENNE FaxServe VAP/NLM	655
OPTUS FACSys Fax Software/Multi-Server	720/1,624
INTEL Satisfaxtion Modem 200/400	244/315
Net Satisfaxtion for 8 fax boards (20 users)	649
Net Satisfaxtion (1000 users)	1,040
DELRINA Winfax Pro for Networks (Server)	125
10/25/100 Users	608/1,350/3,042
Starter Kit (1 Server, 2 nodes)	270

Network CD-ROM

PLEXTOR 4 CDROM tower w/ Microtest Discport	2,599
MERIDIAN CD-Net for DOS v4.31 (10 Users)	467
CD-Net for DOS v4.6 (10 Users/WAN)	648
CD-Net for NetWare (NLM-10 Users)	467
CD-Net for NetWare (100 Users)	938
CD-Net for NetWare (250 Users)	1,445
MICRO DESIGN SCSI Express for NetWare, MDI	564
SCSI Express for NW 2.X	470
SCSI Express for NW3.11, Non-MDI(20 Users)	977
SCSI Express for NW3.11, Non-MDI(250 Users)	1,429
CD-Rom LaserBank 600CD INT/EXT	552/665

Cable Testers & Supplies

RG58 & RG62 Rachet BNC Crimper	45
RJ-45 Crimper	45
RG58 Ethernet BNC-Crimp (100 pak)	125
RJ45 10 BaseT Connectors (100 pak)	40
10Base-T Cable (1000' min) LV3/LV 5	100/200
BELDEN PVC RG58 or RG62 Cable (1000' min)	175
PLENUM RG58 or RG62 Cable (1000' min)	350
MICROTEST Quick Scanner	607
MT310 TP/COAX Scanner	1,142
MT350 Value Kit	1,877
MT350 NEXT Scanner	2,525
Penta Scanner (New Product)	2,914

E-Mail

cc:MAIL DOS Platform V4.0	214
OS/2, Windows or MacIntosh Platform	359
Unix Platform	648
10 User license/25 User/100 User	250/612/2,387
Remote	210
MICROSOFT PC Mail v3.0 Server + 10 Users	479
PC Mail 5/20/100 Users	273/930/3,633
MHS Gateway/PROFS	708/3,405
SMTP/X400 Gateway	3,405/3,405
FAX Gateway	1,419

Network Utilities

BRIGHTWORKS Utilities for NetWare	359
CHANTAL RAID (Software Only)	640
COREL Network (RAID/CDROM/OPTICAL sw)	426
INTEGRA Oasas RAID (Software Only)	535
CHEYENNE Monitrix Network Mgmt.	583
Inoculan (20/250 workstations)	326/655
Utils for NetWare 286/386	257
DIRECT ACCESS Network Menu	425
FUNK App Meter	464
FRYE NetWare Management	339
Early Warning System or Lan Directory	339
INTEL LanDesk Manager v 1.5	1,070
SYMANTEC Norton Admin. 5/10 Users	247/438
Norton Admin. 25/50/100 Users	1,068/2,028/3,680
SABER Lan Workstation 1st node/add 1	129/39
MICROTEST Lan Assist/Map Assist	265/360
NOVELL Lanalyzer for Windows v2.0	1,055
Central Point Anti-Virus for NetWare	889
Xtree Tools for Networks/Server Extension	565/442

Peer-to-Peer Networking

ARTISOFT Simply Lantastic for 2 Stations	332
Simply Lantastic for 1 additional station	166
Lantastic 5.0 A/I	89
AE-2 Adapter 16-bit Ethernet Adapter	217
Noderunner Starter Kit 5.0 for DOS/Windows	477/550
Noderunner/C Coax/Combo	188/238
Noderunner/C (12 pack)	2,074
Lantastic 5.0 for NetWare/MAC	368/589
Lantastic A/I for Win/6 /12 users	139/574/1,053
Lantastic 5.0 for TCP/IP Single/5 Pk	220/883
NOVELL DOS 7.0 (Includes Personal NetWare)	CALL
NOVELL DOS 7.0 5 Users	CALL
MICROSOFT Windows for Workgroup V3.11	159
WFW V3.11 Add-On for Windows 3.1	69
WFW Starter Kit (Software/Hardware for 2)	399

RAID 5 SERVER SUB-SYSTEMS

Subsystems include one 4mm DAT tape drive w/Server NLM, 1 Networkable CDROM drive w/ Server NLM, & RAID-5 storage from 2 GB w/ RAID 5 NLM, mounted in individual ext. chassis. Add a SCSI adapter to complete configuration.

Adaptec 1540ISA/2740EISA/1640MCA	285/399/333
2 GB, 3 1GB drives, 10ms	5,461
3 GB, 4 1GB drives, 10ms	6,530
4 GB, 3 2GB drives, 12ms	8,424
5 GB, 6 1GB (2 host adapters needed)	7,599
6 GB, 4 2 GB drives, 12ms	10,480
8 GB, 5 2 GB (2 host adapters needed)	12,536
1 GB HOT SPARE drive	1,069
2 GB HOT SPARE drive	2,056

- ***LOWEST PRICE GUARANTEE ! ASK FOR DETAILS.***
- ***NOVELL, SCO, ARTISOFT*** trained & authorized.
- Over 20,000 items from over 700 vendors. Call us for those hard to find items. Our computerized catalog can locate them within seconds.
- **VISA & MASTERCARD** Accepted. NEVER A SURCHARGE.
- Same day shipping & NEXT DAY guaranteed delivery available on most orders.
- Courtesy TERMS available to Government, Education, & Fortune 1500 Accounts.

1-800-788-LANS

HOURS: **M-F 8:00 AM TO 6:00 PM PACIFIC TIME**
ADDRESS: **90 South Spruce Avenue, Suite N**
South San Francisco, CA 94080
PHONE: **415-872-1376 FAX: 415-872-6634** CODE: MT9403

- Fortune 1500 companies, Government, & Education P.O. accepted on approved credit.
- International orders accepted. Payment by Credit Card or Wire Transfer.
- Restocking fee applies to all non-defective returns and refused shipments. ***OPENED SOFTWARE IS NOT RETURNABLE.***
- Prices & Specifications subject to change without notice.
- We are not responsible for typographical errors.
- Shipping & Handling charges will be added to all orders.
- Quantity pricing available for 10 units or more.

HEWLETT PACKARD Channel Partner

Andy Hertzfeld:

> "It's fun to make a product, but it's exhilarating to make a platform that takes root. You've done an enormous thing if you can make a great platform that unleashes the latent creativity in people that didn't even know it was there."

often than that it's more conceptually tweaking it.

What's the weirdest thing you can imagine people doing with these things?

That's the same question as "What's the weirdest thing that people do?" And of course that question is more about me than anything else, what I think is weird.

I'm sure there's all kinds of sexual things—as you know, sex has always been a driver to adopting new technologies, and we're in communications, communications is essentially about people, and so there'll be all kinds of stuff in that area.

But I don't think that's weird. It's human and natural. I'm sure if I racked my imagination I could think of weird applications in that area, but I won't even get into that...

"You want agents, we'll give you agents..."

[*laughter*] I don't even know if "weird" is a good adjective. I'm sure there'll be tons of unexpected things, like there were with the Mac. It's just humans. People will take it where their hearts and spirits want it to go.

There's nothing comparable to building a platform, because the platform is this sort of jumping-off point for creativity. I love it.

I think this is my last one, too. It's amazing that we got to do it with the Mac, and when we did it with the Mac we didn't know how hard it was. Whereas with this one we had a pretty good sense of how hard it was, especially for a small company, to develop a new platform, but it was worth doing. I'd be very surprised if I ever found myself trying to do yet another one. It's like, enough is enough! [*laughs*] It's just so hard that you really only get to do it a few times in your life.

And so I'm just going to ride this one out and build as good stuff as I can on top of it.

Do you expect elements of the Magic Cap interface to become cultural icons the way a lot of the Mac symbols did, on T-shirts and bumperstickers and artwork?

That's just like saying, is it going to be successful? It has a lot of personality, and so that will happen if it gets a lot of customers. I sure hope so!

Yeah, but Compaq is successful and you don't see people wearing Compaq T-shirts.

I guess another thing is the kind of people who use our stuff are the kind of people who like to wear T-shirts. [*laughs*] I think that's a much more interesting group of people to go after, than large companies where decisions are dominated by politics, by conservatism. That's not my natural audience.

Free spirits!

In the early days, before there were personal computers, the universities were where programmers almost had to be, and you just look at the type of people there....maybe 20–25% of the pocket protector tie people wore white shirts, but there were much more people with long hair who were just wild, iconoclastic. And there's something about the medium that does that, I think, the sheer malleability of it turns it into an artistic endeavor. ■

Under The Hood: cont.

PC. You don't know it's there. You don't know how it got there. And it's designed to damage your system in some way, cause you problems, delete your files, interfere with your work, something of that sort.

It's powerful, it's anonymous, and it's damaging to you in some way.

So we've had to address all those three aspects of agents in order to believe that we had a technology that hung together.

The first part of it, power, was addressed by the choice of the language in which the agent is expressed. A virus is expressed in the machine language of the PC, and therefore if it ever does get a chance to execute, it's Game Over, You're Dead; [*laughs*] because it has control of your machine and can do whatever it wants to do.

So we don't give an agent control over anyone's machine in that sense. The instructions from which the agent is created are those of the Telescript language, which isn't the Intel instruction set or the Motorola instruction set or anyone's real instruction set. It's a set of instructions which we've designed to have certain characteristics that provide, for example, insulation of the agent from the physical resources of the computer. So if you've programmed an agent, you have no ability to refer to or manipulate or access in any way the real memory of the computer, the real filesystem of the computer, or any device attached to the computer. All those things are really not in the vocabulary of an agent.

What's to keep the agent from attaching itself to something that does have the right access, a la the Robert Morris worm?

The only two ways the analogous thing could happen in Telescript are, first of all, if the engine were not as I'm describing it, but a faulty implementation, in a way that could somehow expose us to this notion; and we're not aware of it. We don't think that's true.

The only other way that it could happen would be if some particular company was providing a facility to visiting Telescript agents whereby they could supply some binary data and have it run on that machine as native instruction. You could do that, and you'd deserve what you got, I suppose, for doing that.

The second aspect of the virus problem is the anonymity. If I knew that you were the source of the virus that was destroying my computer, well, first of all you probably wouldn't have sent the virus if you thought I could figure out it was you, and even if you did, I'd come get you.

It's the anonymity of the virus which really gives it most of its practical power, and the way we address that analogous concern in Telescript is we don't allow anonymous agents. Every agent has an identity and authority. The identity says exactly what agent in the world it is, and the authority says whose agent it is. So if you send an agent from your personal communicator into the network, it's marked unmistakably as your agent.

Do you use RSA's public-key technology to do this?

Yes, RSA is used to do that in the service that AT&T will offer.

In Telescript every agent has a name. And when one agent encounters another in the network, each can examine the other...

Sniff each other...

They sniff each other, and you can't change your own name, it's as simple as that.

Actually achieving the promise of that simple idea is quite hard, and the best known way to do that is with public key cryptographic techniques, which is what we have done—essentially it involves digital signatures using the RSA crypto system so you can establish, again to the state of the art in computer science, whose agent it is.

I think it's fair to say that with those two aspects —the choice of instructions from which the agent is built, and the authentication of the agent as being your agent or my agent—that addresses what I like to call classical viruses, the kind I described at the outset where you have machine code

continued on page 271

PARAMOUNT COMPUTER

$1045 486SX-33

$1175 486DX-33

$1370 486DX2-66

486VLB System

- 486DX Intel Processor
- VESA Local Bus Motherboard
- On Board 256K External Cache
- 4MB RAM Expandable to 32MB
- Teac 1.2MB & 1.44MB Floppy Drives
- 250MB Fast IDE Hard Drive
- Local Bus 32-Bit IDE Interface
- Vesa Local Bus Spider Graphic Card with 1MB Video DRAM
- 14" Full-Sceen Non-Interlaced .28dpi 1024x768 Color Monitor
- Mini Tower Case w/230W P.S.
- 101 Enhanced Keyboard
- Microsoft Compatible 3-Buttons Mouse

$695 386SX-33

$735 386DX-40

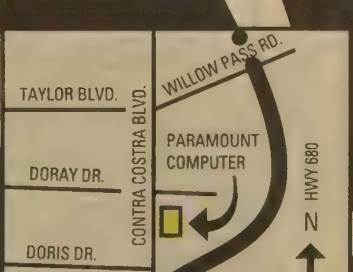
386 Basic System

- 386 CPU/Motherboard
- On Board 128K External Cache (for 386DX-40 only)
- 2MB RAM
- 170MB IDE Hard Drive
- Teac 1.2MB or 1.44MB Floppy Drives
- Trident 512K SVGA Card
- 14" Full-Screen .28dpi 1024x768 Color Monitor
- Mini Tower Case w/230W P.S.
- 101 Enhanced Keyboard

$1385

486 Multimedia System

- 486DLC-40 CPU/Motherboard
- On Board 128K External Cache
- 4MB RAM
- 250MB IDE Hard Drive
- Panasonic Double Speed 300KB/Sec CD Rom
- Sound Blaster 16-Bit Sound Card
- CD Titles: Encyclopedia, Mother Goose, King's Quest, Loom, Wold Atlas
- Teac 1.2MB & 1.44MB Floppy Drives
- Trident 1MB SVGA Card
- 14" Full Screen Non-Interlaced .28dpi 1024x768 Color Monitor
- Mini Tower Case w/230W P.S.
- 101 Enhanced Keyboard
- Microsoft Compatible 3-Buttons Mouse



Hours: Mon—Fri 10 am – 6 pm
Sat/Sun: 11 pm – 4 pm

Prices and availability subject to change without notice. Not responsible for typographical errors. One year parts & 3 years labor on all systems.

1630 Contra Costa Blvd. #D
Pleasant Hill, CA 94523
FAX (510) 680-1013

Quality Systems! Affordable Prices!

MOTHERBOARDS W/CPU

586DX-66 PCI or VLB w/512K Cache	$CALL
586DX-60 PCI or VLB w/512K Cache	$CALL
486DX2-66 PCI Local Bus w/256 Cache	$650
486DX-50 PCI or VLB w/256K Cache	$CALL
486DX-33/40 PCI Local Bus w/256K Cache	$465
486DX2-66 Vesa Local Bus w/128K Cache	$530
486DX-50 Vesa Local Bus w/128K Cache	$CALL
486DX2-33/40 Vesa LB w/128K Cache	$345
486SX-33 Vesa LB w/128K Cache	$195
486SLC3-99 Vesa LB w/64K Cache	$CALL
486SLC2-66 Vesa LB w/64K Cache	$250
486SLC2-50 Vesa LB w/64K Cache	$CALL
486DLC-40 w/128K Cache	$140
386DX-40 w/128K Cache	$125
386DX-33 w/128K Cache	$112
386SX-33	$75

MONITORS

ADI MicroScan 14"/15"/17"	$CALL
Mag 15F 15"/17F 17"	$495/$875
Nanao 340IW 15" Flat Screen	$538
Nanao F550IW 17" 1280x1024	$1159
Nanao F560IW 17 "Green Power"	$1375
NEC 3FGe 15" 1024x768 @ 60Hz	$578
NEC 3FGe 15" 1024x768 @ 76Hz	$685
NEC 4FGe 17" 1024x768 @ 76Hz	$1070
NEC 5FG 17" 1280x1024 @ 74Hz	$1330
NEC 5FGp 17" 1280x1024 Opticlear Surf	$1410
Sony CPD 1430 14" .25dpi	$568
Sony GDM-17SE1 17" 1600x1200 .25dpi	$CALL
Sony CPD 1730 17" SVGA .25dpi	$998
Sony GDM2038 20" SVGA	$CALL
Viewsonic 15 15" 1280x1024 .28dpi	$445
Viewsonic 17 17" 1280x1024 .28dpi	$1025
Viewsonic 20 20" 1600x1280 .28dpi	$1635
Viewsonic 21 21" 1600x1280 .28dpi	$CALL

VIDEO CARDS

DIAMOND	
Speedstar Pro VLB or ISA 1MB	$128
Stealth 24 VLB or ISA 1MB	$157
Stealth Pro ISA 1MB/2MB	$240/$319
Stealth Pro VLB 1MB/2MB	$295/$315
Viper VLB 2MB VRAM	$365
Viper PCI 2MB VRAM	$CALL
HERCULES	
HG310 Graphite Pro ISA 1MB VRAM	$275
HG420 Graphite Pro ISA 2MB VRAM	$405
HG610 Graphite VL Pro 1MB VRAM	$285
HG720 Graphite VL Pro 2MB VRAM	$405
ORCHID	
Fahrenheit Plus VLB 1MB/2MB	$158/$198
Celcius VLB 2MB VRAM	$285
SPIDER GRAPHICS	
Spider 32 VLB Plus 1MB/2MB	$110/$158
Black Widow VRAM 1MB/2MB	$204/$260

PRINTERS

Canon B J-600 Color Ink Jet	$599
Canon B J-200 Ink Jet	$289
HP DJ500/500C/550C	$295/$395/$585
HP 4/4M/4L/4ML	$1349/$1865/$669/$999
HP 4P (new)	$999

Please call for others.

MULTIMEDIA

CD-ROM DRIVES	
Panasonic CR562 Double Speed 300KB/Sec	$205
Sony 31A-03 Double Speed 300KB/Sec	$199
Sony 561 SCSI 285ms 300KB/Sec 256K Cache	$359
Mitsumi 350ms CD-ROM MPC Ready	$149
Mitsumi Double Speed 250ms 300KB/Sec	$199
Phillips Double Speed 300KB/Sec	$199
NEC 3XI Triple Speed SCSI-II 190ms 450KB/Sec	$CALL
NEC OEM Triple Speed SCSI-II 190ms 450KB/Sec	$435
Toshiba 3401B Multi Speed 200ms 330KB/Sec	$348
Texel 3028 SCSI-II 240ms 330KB/Sec	$279
Teac CD-50 SCSI-II Double Speed 265ms 335KB/Sec	$279
Orchid CDS-3110 Double Speed 300KB/Sec	$225
SOUND CARDS	
Creative Labs Sound Blaster Pro Deluxe	$109
Creative Labs Sound Blaster 16 Basic	$128
Creative Labs Sound Blaster 16	$155
Sound Blaster 16 MCD/with ASP	$168/$199
Sound Blaster 16 SCSI-II/with ASP	$199/$209
Media Vision Pro 16 Basic	$109
Media Vision Pro Audio Spectrum 16	$149
Media Vision Pro Audio Studio 16	$195
Orchid Sound Wave 32 16-Bit Sound Card	$198
Orchid Game Wave 32 16-Bit Sound Card	$145
Diamond Sonic Sound 16	$209

HARD DRIVES

Conner CP30254 250MB IDE 14ms	$220
Conner CP3340A 340MB IDE 13ms	$260
Conner CP30544 540MB IDE 12ms	$488
Maxtor 7131A 130MB IDE 14ms	$175
Maxtor 7245A 250MB IDE 15ms	$234
Maxtor 7345A 340MB IDE 14ms	$268
Maxtor MXT-540A 540MB IDE 8.5ms	$549
Quantum LPS170A 170MB IDE 17ms	$189
Quantum LPS270A 270MB IDE 12ms	$234
Quantum LPS340A 340MB IDE 13ms	$369
Quantum LPS540AT 540MB IDE 12ms	$485
Quantum LPS525AT 525MB IDE 10ms	$CALL
Western Digital WD2250 250MB IDE 13ms	$225
Western digital WD2340 340MB IDE 12ms	$275
Western Digital WD2420 420MB IDE 13ms	$335
Western Digital WD2540 540MB IDE 12ms	$510

CONTROLLERS

Adaptec 1542C SCSI-II Bus Master w/Kit	$245
Adaptec 2842 VLB SCSI-II Bus Master w/Kit	$315
Bus Logic BT542 Bus Master SCSI-II Kit	$218
Bus Logic BT445S VLB Bus Master SCSI-II Kit	$295
Bus Logic BT545KT Bus Master Fast SCSI	$229
Promise DC4030VL-II IDE Cache Controller	$130
ISA IDE Controller 2HD, 2FD 2serial, 11pt, 1game	$18
VLB IDE Controller 2HD, 2FD 2serial, 11pt, 1game	$29

CASES WITH POWER SUPPLY

AT Desk Top w/230 Watts Power Supply	$58
Mini Tower Case w/230 Watts Power Supply	$54
Medium Tower Case w/230 Watts PS	$79
Full Tower Case w/250 Watts Power Supply	$95

TAPE BACKUP

Colorado DJ10 120MB / DJ20 250MB	$99/$165
Colorado 250MB with 1 Cartridge	$145

CALL (510) 680-0204

PARAMOUNT COMPUTER

USM

US MACH

US MACH Systems
USM Distributors

VISA Incorporated 1983 MasterCard

Price and availability subject to change.
No surcharge for credit cards.

Visit our stores
In **SO. CALIFORNIA:**
USM BREA
(714) 255-0113
USM IRVINE
(714) 252-8335

American Megatrends

FACTORY AUTHORIZED DISTRIBUTOR

New SF Location!

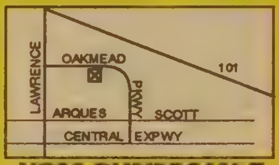
380
SAN MATEO AVE.
AIRPORT BLVD.
GRAND AVE.
101
So. AIRPORT

USM SAN FRANCISCO
61A Airport Blvd., So. San Francisco, CA 94080
415-952-5885 FAX: 415-952-5835
HOURS: M-F 9-6 • Sat 10-5

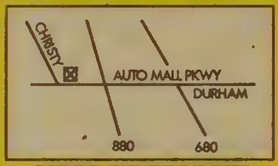
STANFORD
EL CAMINO REAL
COWPER
TASSO
WEBSTER
101
UNIVERSITY
FREE PARKING

Now Open Sundays!

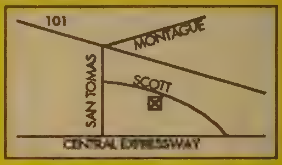
USM PALO ALTO
540 University Ave.Palo Alto, CA 94301
415-325-0651 FAX: 415-325-2458
HOURS: M-F 10-7 • Sat 10-5 • Sun 12-5



USM SUNNYVALE
1290 Oakmead Parkway, Sunnyvale, CA 94086
408-738-8291 FAX: 408-738-8299
HOURS: Mon-Fri 9-6



USM FREMONT
43104 Christy Street Fremont, CA 94538
510-623-9040 FAX: 510-623-7592
HOURS: M-F 9-6 • Sat 10-5



USM SANTA CLARA
3070 Scott Blvd. Santa Clara, CA 95054
408-980-0602 FAX: 408-980-0604
HOURS: M-F 9-6 • Sat 10-5

American Megatrends

STATE OF THE ART TECHNOLOGY

The World Leader in AMI BIOS & Hardware Design

FREE AMIDIAG Diagnostic software/ manuals w/ every AMI System PC Magazine Editor's Choice

MS DOS 6.2 & MS Ergonomic Mouse included

FREE 1 year On-site Service support for Corporate volume buyers

NEW!

American Megatrends

EXCALIBUR PENTIUM

Excalibur Pentium 60MHz

- Intel Pentium CPU
- Built in IDE I/O 2S/1P
- 256K Static RAM cache

- 4MB RAM exp. to 128/192MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- Microsoft Ergonomic Mouse
- MS DOS 6.2
- CPU Cooling Fan
- Full burn-in
- 1 year parts & labor warranty

$2195
Excalibur VLB

$2295
Excalibur - PCI

American Megatrends

SuperVoyager II 486-33/66MHz VESA Local Bus - 256k cache

- SuperVoyager II Motherboard
  - Intel CPU 486DX-33/486DX2-66
  - Pentium P24T Support-ZIF socket
  - Built in IDE I/O 2S/1P
  - 256K Static RAM cache
- 4MB RAM exp. to 64MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- Microsoft Ergonomic Mouse
- MS DOS 6.2
- CPU Cooling Fan • Full burn-in
- 1 year parts & labor warranty

$1195
SuperVoyager II - 33

$1395
SuperVoyager II - 66

American Megatrends

Enterprise IV 486-33/66MHz EISA-VESA w/256k cache

- Enterprise IV Motherboard
  - Intel CPU 486DX-33/486DX2-66
  - Pentium P24T Support-ZIF socket
  - Built in IDE I/O 2S/1P
  - 256K Static RAM cache
- 4MB RAM exp. to 256MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/230W PS
- Microsoft Ergonomic Mouse
- MS DOS 6.2
- CPU Cooling Fan • Full burn-in
- 1 year parts & labor warranty

$1395
Enterprise IV - 33

$1595
Enterprise IV - 66

SPECIALS

FastDisk NC EISA/SCSI	**$245**
FastDisk EISA/VLB Ca.	**385**
FastLAN SCSI	**395**
FastView VLB 2MB	**345**
AMI Pentium MB	**In Stock**

American Megatrends

MegaViews

- Did You Know!!

• In the January issue of PC Sources, the four top ranked systems all used the SuperVoyager motherboard from American Megatrends.

"When it's all said and done, the biggest difference between motherboards and between systems comes down to chip design."

"Among the 11 reviewed systems, five chip set vendors are represented: American Megatrends, Micronics, Opti, SIS and VLSI. Of these, without a doubt, the most efficient design is American Megatrends."

OPTIONS:
Custom Configured Systems are US MACH's Specialty.
We guarantee the best price on all peripherals & software.
VIDEO CARDS: AMI FastView VLB, Diamond Viper, Cirrus Logic, ATI Mach 32 VLB, Hercules Graphite and more
MONITORS: NEC, NANAO, MAG, Sony, Viewsonic
HARD DISKS: Maxtor, Conner, Fujitsu, Toshiba, WD
CONTROLLERS: AMI FastDisk, Ultrastor 34F, Adaptec, Promise

Please Call or Fax Your Configuration for the BEST System at the BEST Price!

BEST VALUE!
2 Year MB & Lifetime Labor Warranty

mach V Energy Star 486VLB System

- mach V 486-33/486-66 VLB Superboard
- 3 VESA Local Bus Slots. 8 ISA Slots
- SuperFast VLB IDE I/O
- 4MB RAM exp. to 32MB
- 256k Static RAM Cache
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 Keyboard
- Mid Tower Case w/235W PS
- CPU Cooling Fan
- Microsoft Ergonomic Mouse
- MS DOS 6.2 • Full Burn in
- 2 Year Motherboard Warranty
- I Year Parts Warranty
- Lifetime Labor Warranty

MS DOS 6.2 & MS Ergonomic Mouse

3 VESA Local Bus Slots

Green PC Energy Star Features

mach V 486DX-33 w/256K Cache	**$995**
mach V 486DX2-66 w/256K Cache	**$1195**

mach VIII Pentium PCI

Same configuration as above system **$1995**

COMING SOON

mach VI DX4-100MHz

UPGRADE to GREEN PC

mach V Energy Star
486 VL Superboard

- Green PC Features
- 256K Cache
- Zif Socket - Pentium P24T Upgradable
- 3 VESA Local Bus Slots
- 8 ISA 16bit Slots

2 Year Warranty

NO CPU... **$245**

MICRONICS
JX30 VLB System
486-33/66MHz w/256k

- Micronics VLB Motherboard
- Intel CPU 486DX-33/486DX2-66
- Built-in VLB IDE I/O, Pentium P24T ready
- 256K Static RAM cache
- 4MB RAM exp. to 64MB
- TEAC 1.2MB & 1.44MB FD
- Key Tronic 101 keyboard
- Mid tower case w/235W PS
- CPU Cooling Fan
- Microsoft ergonomic mouse
- MS DOS 6.2 • Full burn-in
- 1 year parts & labor warranty

$1195 JX-30 VLB - 33

$1395 JX-30 VLB - 66

Micronics Pentium PCI
Motherboard
Now Available
Call for Best Price!

IBM VLB System
486SLC2-66/64k
486BL3X-75

- IBM Alaris Motherboard
- IBM SLC2-66 or BL3X-75 CPU & 64K cache
- 4MB RAM
- TEAC 1.2MB & 1.44MB floppy drives
- VLB IDE Controller, 2 serial, 1 parallel ports
- Key Tronic 101 keyboard
- Mid Tower Case w/235W PS
- Microsoft Ergonomic mouse
- MS DOS 6.2
- Full burn-in
- 1 year parts & labor warranty

$895 SLC2 - 66

$1295 BL3X - 75

COMPLETE 486 MULTIMEDIA SYSTEM SALE!!!

- Intel 486 CPU
- Solutions 486 motherboard
- 4MB RAM exp. to 32MB
- IDE Hard Disk 250/340/420MB
- TEAC 1.44MB floppy drive
- SVGA Monitor 1024x768 .28dp
- SVGA graphics card
- 101 keyboard
- Mini tower case
- 2 serial, 1 parallel, 1 game ports
- Serial mouse
- Double Speed CD ROM
- Deluxe Sound Card/Speakers
- 5 CD Titles

	250MB	340MB	420MB
486SX-25	$1195	$1245	$1295
486DX-33	1395	1445	1495
486SLC2-66	1495	1545	1595
486DX2-66	1595	1645	1695

UPGRADING YOUR SYSTEM? GO US MACH! BEST PRODUCT, PRICE, QUALITY, SERVICE!

BMUG's Choice for Macintosh Specialty Store   Celebrating Our 10th Year

MAC℠

Modern Accessories for Computers
Since 1985

800-BUY-A-MAC	Order Line for US & CA (Toll Free!)
(510) 644-0500	General Number / Sales Department
(510) 549-8785	Macintosh Repairs
(510) 644-0584	Order by Fax

2156A University Avenue, Berkeley, CA 94704

Rental, Lease or Purchase of Macintosh

Store Hours
10:00 a.m. -- 6:00 p.m.
MON -- SAT

ATM VISA MasterCard

TOP 10 Store in the Bay Area ... San Francisco Examiner Reader Poll

Modem

PowerPort Gold for PowerBook	**$315**
PB DataLink w/ Voice FaxModem	**$299**
Supra 2400 Baud Modem w/ Cable	**$89**
Teleport Bronze II FaxModem	**$109**
Supra FaxModem v.32bis LC	**$179**
Teleport Gold v.32bis 14,400	**$315**
US Robotics Mac&Fax 14,400	**$229**

Printer

NEC SilentWriter Model 640	**$829**
HP LaserJet 4MP •600dpi, 6MB RAM, Post Script II Laser	**$1399**
Deskwriter 550c •300 dpi Color Ink Jet Printer	**$495**
StyleWriter II, w/ Cable, *low price*	**$299**

Memory Upgrade

1 Meg Simms, 100/120ns	**$39**
1 Meg Simms, 80ns	**$49**
2 Meg Simms, 80ns	**$99**
4 Meg Simms, 80ns	**$199**
8 Meg Simms, Centris	**$399**
16 Meg Simms, Quadra 840AV	**$795**
4 to 14 Meg Board, PB Duo	**Call**
4 to 10 Meg Board, PB 180	**Call**
4 to 10 Meg Board, PB 165c/180c	**Call**

PLI Infinity Drives

Local Support at Mail Order Prices

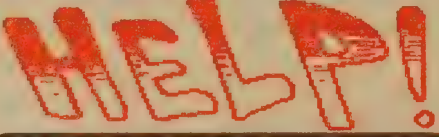
PlI Infinity 44 SyQuest, w/ 1 Cartridge	**$369**
PlI Infinity 88 SyQuest, w/ 1 Cartridge	**$549**
PlI Infinity 105 SyQuest, 1Cartridges	**$569**
SyQuest 44MB / 88MB Cart.	**$69/109**

Scanner

HP Scanjet IIcx Color Scanner	**$995**
UMAX ScanOffice G/S Scanner •Ofoto, TypeReader,Publish It! Easy Included, $1000 Value •Award-winning total office scanning solution	**$895**
UMAX 630LE 600 dpi Color Scanner	**$895**
UMAX 630 600 dpi Color Scanner •24 Bit Photo-Realistic Color / 256 Gray-Scale •Best Rated Scanner by MacUser Magazine •Photoshop Version 2.5 Included	**$1095**
Arcus Plus 1200dpi Color Scanner •10 bit per pixel, 30 bit, 1 billion colors •Excellent for professional prepress & image editing •Slides, transparencies and X-ray images supported	**$2995**

SuperMac

SuperMac Thunder 24 •*Free* **Thunder II Upgrade**, $599 Value •Upgrade Offer Expires March 31, 1994 •24 Bit Accelerated Card, Boost Up to 4200%!!! •AcceleratePhotoshop w/ Thunder II Upgrade	**$1695**
SuperMatch 20•T XL Multimode •*Free* **Thunder II Upgrade**, $599 Value •Large Screen Trinitron Color Display •6500°K Natural White Point •Perfect for Color Publishing	**$2499**



Macintosh Repair

- **PowerBook Battery Not Charging? Call Us.**
- **We Can Repair/Install While-You- Wait.**
- **On Site Service Available**
- **Expert Installation Ready by Next Day**
- **Expert Repair in 1 to 2 Days**

Attn. Macintosh Users

Buy any PowerBook
Get C•A•T for Free

(Best Contact Management Software
$495 Value)

PowerBook Duo 250 4MB/200HD	$2489
PowerBook Duo 270c 12/240/Modem	$3489
PowerBook 145B 4MB/80HD	$1369
PowerBook 165 4MB/80HD	$1689
PowerBook 180 4MB/120HD	$2399

Quadra 610
8MB/160HD
Only **$1349**

Quadra 605 4MB/80HD	$929
Quadra 605 8MB/160HD	$1229
Quadra 610 8MB/230/CD, w/3 CD	$2039
Quadra 650 8MB/230HD	$2269
Centris 660AV 8/230/CD, Free CD	$2299
Quadra 840AV 8/230/CD, Free CD	$3695
Quadra 840AV 16/500/CD, Free CD	$4499
Apple 14" Plus Monitor	$319
Apple CD 300, *New Low Price*	$409
Apple PowerCD w/ Remote Control	$439
Apple Multimdedia Kit w/3 Free CD	$599
NEC 3V Multisync Monitor,	$549
Sony 17se Multsync Monitor	$1295
Radius FPD/15 B/W Portrait Monitor	$519
Apple Laserwriter Pro 630	$1995

Finance Your Macintosh
Purchase Up to 36 Months

Mac Trade-In

•We Buy or Trade Any Macintosh CPU (Mac SE minimum) & Peripherals

Mac Hard Disks

Prices Good w/ Ad Only

†External Unit Add $90 ea.

Apple Quantum 80MB HD	**$199†**	**Fujitsu 520MB HD**	**$595†**
Quantum LPS 170MB HD	**$229†**	**Fujitsu 1.2 Gig HD**	**$995†**
Quantum LPS 270MB HD	**$319†**	**Seagate 1.9 Gig, Barracuda**	**$1795†**
Seagate 500MB HD	**$549†**	**Quantum 2.5" 256MB HD**	**$429†**

Macintosh Rentals

Security Deposit Required

Quadra 605	Mac SE	Mac IIsi	PowerBook 145B
4MB/80HD	2MB/20HD	5MB/80HD	4MB/40HD
$99	**$39**	**$79**	**$99**
Weekly	Weekly	Weekly	Weekly

Macintosh Lease To Own

Other Models and Options Available Call for Rates

Mac Quadra 650 8MB/230HD	$79/Mo
Mac Centris 660AV 8MB/230HD/CD	$85/Mo
Mac Quadra 840AV 8MB/230HD/CD	$128/Mo
Apple 14" Color Display	$19/Mo
Apple 16" Color Display	$37/Mo
Radius Color Pivot	$28/Mo
Radius 20GS Monitor	$31/Mo
Thunder 24 Video Board--Fastest 24 Bit	$77/Mo
NEC Silentwriter 95, New Low Rate	$35/Mo
HP Scanjet IIcx, Color Scanner	$35/Mo
LaserWriter Pro 630, 8MB RAM	$70/Mo

Estimated Payment based on 36Mo/$1 Lease, Business Only, Tax Not Included

Prices Advertised Are for MicroTimes Readers Only. Prices subject to change without notice.

This Ad Expires April 4, 1994

Report From Macworld Expo

PowerPC And Other Cool Stuff

BY DAVID MORGENSTERN

RESOURCES:

Magic Mouse Productions
(415)669-7010
fax: (415)669-7009

Microworks Corp.
328 Walden St.
Cambridge, MA
02138-1344
voice and fax:
(617)547-8322
CIS 73520, 325

B M U G

Q-Safety
2341 East Foothill Blvd.
Pasadena, CA 91107
(818)449-1590
fax: (818)449-6866

Working Software
PO Box 1844
Santa Cruz, CA 95061
(408)423-5696

Yano Electric Company
2-7-12 Ohtsuwa,
Nishiku
Kobe 651-21, Japan
(81-78)974-2931
fax: (81-78)974-4021

Copyright © 1994 by David Morgenstern. All rights reserved.

Twice a year the packs gather together. Around the time of the winter solstice they move westward to the Pacific, and in the summer follow the time-honored paths to the East. They dig deep in the fermented dark sand, gaining strength and sustenance for their trip home. It's Macworld Exposition time again.

I had always wondered why the two big Mac shows are held at such inconvenient times. Macworld Boston takes place in the worst of the summer heat and humidity. Macworld San Francisco arrives in the first week of January after long holiday vacations, in the heart of our rainy season. It used to be held a couple of weeks later, but the SuperBowl contest interfered with attendance—we're talking ghost town. I fondly remember watching the 49ers in the SuperMac booth. It seems that these are weeks that nobody wants for conventions, and could be had for a song eight years ago when the show started out. Now it's a tradition. Lucky Mac users!

POWER TO BE YOUR BEAST

The forthcoming PowerPC-based Macintosh models were the talk of the show. It was PowerPC this, and native that. Moscone Center custodial services were kept busy mopping the floors of drool around the DayStar booth and the Apple pavilion, where upgrades and PowerPC products were demonstrated. A queue snaked for a block through the hallways, packed with folks waiting for entree into the Apple room. Was the delay caused by the fire marshal's edicts on severe crowding? Not. Upon entering the pavilion, everyone had to have their badges scanned, reportedly so that Apple could build a mailing list for their new credit card. Fast processors and minimum payments make users and lenders into happy campers.

I noticed a rather glazed look on the faces of the Apple personnel demonstrating future "system technologies" in the rear of the Apple pavilion. They showed some really cool stuff that most of us have only heard about in BMUG meetings—the scriptable Finder, QuickDraw GX, Apple Interactive Help, OpenDoc and advanced drag-and-drop capabilities. We will go into these technologies in depth in the months ahead. It seems that these were staff from software evangelism, usually known for their rabid state-secret counter-spy mentality, who were now under orders to show off the goodies to anybody and everybody. I've rarely seen such obvious signs of nervous distress and unconscious conflicts. "Will this...?" Blink. Twitch. Shake.

Steve Costa, BMUG's executive director, made an interesting observation about this particular Macworld Expo. He felt that this could be the last purely Macintosh show. Say what? Future shows may be infiltrated with UNIX and non-Macintosh vendors trying to push their wares into the PowerPC Mac marketplace. The PowerPC eventually will be capable of running all kinds of hardware and software now found on other platforms. But Apple keeps insisting that the Power Macintosh models will still be Macs, so we will all have to wait and see on this semi-prediction.

A corner of the BMUG booth featured the BMUG Daily Living Newsletter, a very ambitious project by Jeannene Hansen, a multimedia maven and one of the developers of BMUG's TV ROM series of CDs. BMUG reporters shot demonstrations and interviews on the show floor, which were digitized into QuickTime movies. The movies were then incorporated into a HyperCard interface with text and still images, developed by Jeannene.

The "kiosk" in the booth presented more than twenty stories, totaling nearly 100MB of movies and ten requisite BMUG infomercials on show specials and meetings. Stories included "Most Gruesome Demo," the Magic Cap introduction, the Digital Be-In, and a fun ART!-Days of Thunder mini-movie. Jeannene said, "This was exactly the kind of thing I hoped would happen when a group of people are allowed to contribute their ideas in a structurally conducive environment." Many thanks to Radius, Sony, and Tom Santos at Macadam for donations of equipment for the project!

THE EXTRAVAGANT FLOOR SHOW

Here are a number of the products that caught my eyeballs at the show:

- The BMUG booth showed off the latest edition of the BMUG Newsletter—all 550 pages worth! Hans Hansen, BMUG's publication maestro said that all the articles flowed so smoothly into the layout, it seemed a shame to trim any of them. That's bonus information with every extra page. The Newsletter is utterly magnificent and only available to BMUG members, so join now and start weight training so you can lift the book.

We also featured America Seen, BMUG's new CD-ROM of stock photography by Kandy Arnold. A couple of years ago, Raines Cohen and Kandy traveled across the country on their honeymoon—Raines riding a bicycle, with Kandy driving the support van and taking pictures. There are 53 high-quality royalty-free photos on the disk in RGB and CMYK TIFF formats. The cost is only $65.

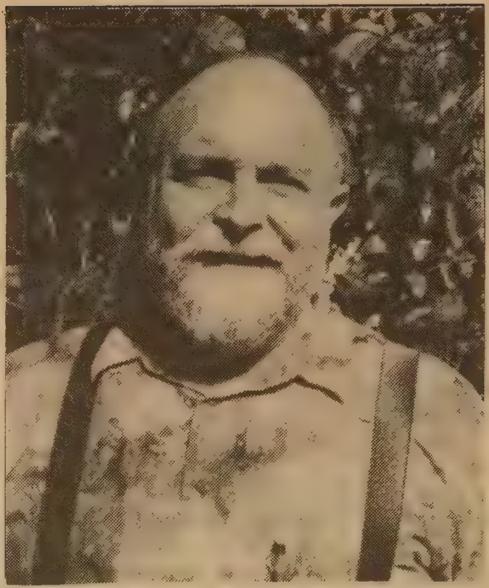
- If you came of age in the 1960s, then you may remember the universal conspiracy theory that the military has actually discovered everything that there is to know, and classified it as top-secret. We only now uncover, through hard years of commercial research, the technologies that they have stockpiled for decades. What does this have to do with the Macintosh?

A developer at MacEurope Systems in England was working on some hush-hush data analysis programming for their version of the National Security Agency. He noticed that these streams of data looked just like those of graphics files. So as quick as you can say "technology transfer," he built a $3500 graphics accelerator NuBus card with a bunch of custom chips, 16MB of RAM, and some software to control it. The Imagician board can handle huge TIFF files in real time, manipulating them with ease. Multiple transformations don't slow it down, and the company rep said the board runs at an effective 1600 MIPS! Artistic chins were hitting the floor around this booth.

Lucky BMUGers got to see this product in action a couple of weeks before the Expo in its first public demo on this continent. Just another benefit of regular meet-

continued on page 324

Maurice Weitman:
"Helping people is a wonderful thing... It's one choice you can make. You can't determine if your tax money goes toward building missiles, but as a volunteer you can pick the things that are important to you."



One Volunteer Makes A Difference

BY JIRI WEISS JR.

Last October, some weeks after being robbed at gunpoint in her Oakland apartment, the 23-year-old mother of three called the help line at Eden I&R Inc., a Hayward-based referral agency. She was living in hotels, she told the case worker, and her money was running out. She needed to find permanent housing quickly and the most she could spend was $575. No, she did not have the money for a deposit.

Just three years ago the most the agency would have been able to do is provide her with the phone numbers of housing agencies out of a book. Today, the case worker entered her profile into the computer database and, within minutes, gave the mother not only a listing of available vacancies in the county, but also the contact numbers for an agency that would provide the housing deposit and the welfare office that could arrange additional benefits for one of her children who is handicapped.

In those three short years, thanks to computer professionals who volunteered their time through CompuMentor, the agency has come the equivalent of the technological stone age—an old IBM PC and a programmable typewriter—to a comprehensive database running on a file server and fourteen networked Macintoshes. The agency is now technologically so far ahead, says its Executive Director Barbara Bernstein, that it is beginning to license its database and train some of the 150 sister agencies around the state, only a third of which are computerized.

"None of us knew anything about computers when we started," Bernstein says, "we could not have done it without CompuMentor." She singles out Maurice Weitman, the 49-year-old general manager of The W.E.L.L. electronic network in Sausalito, as one volunteer in particular who was instrumental in setting up the database.

MAURICE TO THE RESCUE

Bernstein knew Weitman was different from the other computer professionals the agency had worked with right from the beginning. "Maurice did not want to tell us what we needed," she says. "Instead, he first went to the staff to ask them what they needed."

Rather than talking about what the computer could or could not do, Weitman asked for a wish list. "The thing I try to get a group to do is not assume that what they want can't be done," he says.

Weitman set up a four-part FileMaker Pro database based on the information he gathered within less than three months working on the project mostly at home. The database he created gives everyone at Eden immediate access to the information they need; it is simple enough that even the previously computerphobic staff members can add and modify it, says Annamaria Swardenski, a program coordinator at Eden. "Other agencies we have looked at remain dependent on computer programmers, Maurice taught us how to make modifications ourselves."

But when she does need help, Weitman is always only a phone call or an e-mail message away, she says."He is very easy going about it."

Eden is just one of the many success stories to Weitman's credit since he started volunteering with nonprofits in 1986 as CompuMentor's first volunteer. Another agency where Weitman has been spending a lot of time is the Bay Area Women's Resource Center, an advocacy and community education program in the heart of San Francisco's Tenderloin district.

At the center, Weitman has helped with everything from equipment purchase to mail-merge databases and desktop publishing templates for a resource book the agency publishes each year. "We have saved thousands of dollars by being able to do the book and all the flyers and resource guides ourselves," says Midge Wilson, the agency's executive director. "All of us were complete neophytes as far as computers are concerned, but Maurice never made us feel that we were stupid. He didn't coddle us, but pushed us and his passion for what he is doing translated to us."

In emergencies, such as disk crashes, Weitman showed up the same day. "He took all our requests seriously as if we were one of his corporate clients... He is simply wonderful."

Weitman says that most of the forty or so nonprofit agencies he's worked with didn't know much about computers when he started. "My charge was to initiate them and help them see that computers can be a friendly tool they can use to become more effective."

One of the first agencies Weitman helped out, and even ran for a while, was PACER, a post-adoption center which helps adoptees find their birth-parents.

Weitman, himself an adoptee, began looking for his parents in 1976. In 1989, PACER helped him to find his mother. His father, he learned, had died much earlier. "Even seeing the photographs was important; part of the problem is not knowing."

Weitman attributes some of his altruism to that search for his parents. One of his childhood dreams was that he would find his mother and help her.

Not all volunteers have such personal reasons for what they do, says Weitman. "But whatever the reason, helping people is a wonderful thing... It's one choice you can make. You can't determine if your tax money goes toward building missiles, but as a volunteer you can pick the things that are important to you." ■

CompuMentor (415/512-7784) is currently looking for volunteers in the following areas:

- Mac and DOS basics, including setup, sy tem management, troubleshooting, and utilities
- needs assessment: someone to develop a specific work plan out of general requests
- databases: analyze needs, select software, program, and debug (especially FileMaker/Pro, Paradox, dBASE, FoxBase/Pro ,and 4th Dimension)
- Local Area Networks (2–10 stations): assess, select, install, and troubleshoot
- Accounting packages: select, install, and support.

Copyright © 1994 by Jiri Weiss, Jr. All rights reserved.
Jiri Weiss is a Berkeley, CA-based freelance writer who can be reached at Jiri@mica.berkeley.edu.

MORE COMPUTER BUYS FROM FRY'S!

486DLC-40MHz COMPUTER KIT
BUILD YOUR OWN

80486DLC-40MHz CPU • 1MB RAM Expandable to 32MB
2 Hard/2 Floppy Controller • 3.5" 1.44MB Floppy Drive
Keyboard • Clock/Calendar • Case / Power Supply
#1856275

$299

HEWLETT PACKARD

OmniBook 300 Superportable PC

386SX CPU • 2MB RAM
40MB Hard Drive
2 PCMCIA Type II Slots • Serial/Parallel
MS Windows • MS Word For Windows
Laplink Remote Access • 3lbs. • Mouse
#1794333

$1099

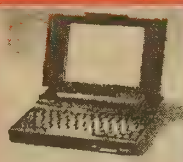
486SX-25MHz 120MB NOTEBOOK

486SX 25MHz CPU • 3.5" 1.44MB Floppy Drive
4MB RAM • 120MB Hard Drive • Trackball
Serial/Parallel Ports • VGA Graphics
#1838950

MITAC

$1349

486SX 33MHz 120MB COLOR NOTEBOOK



486SX 33MHz CPU • 3.5" 1.44MB Floppy Drive
4MB RAM • 120MB Hard Drive • 5.9 Lbs.
Serial/Parallel Ports • VGA Graphics
Passive Color Screen
#1815320

MITAC

$1999

Avanti

486SLC 25MHz 120MB COLOR NOTEBOOK

486SLC 25MHz CPU • CYRIX SLC Chip with1K Cache
4MB RAM • 120MB Hard Drive • 3.5" 1.44MB Floppy Drive
MS DOS • MS Windows • Winfax • 96/24 Fax/Modem
• Trackball• Color Screen• 256 Colors Simultaneously
#1767979

$1999

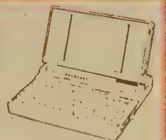
SHARP PC-8650 486SL-33MHz 200MB COLOR NOTEBOOK

SL Enhanced i486™ 33MHz CPU • 200MB Hard Drive
4MB RAM Expandable to 20MB • PCMCIA2.0 Type II slot
Large 8.4" Active Matrix Color LCD VGA Display (256 colors)
Pre-installed Microsoft Windows and MS-DOS #1845787

$3199

TOSHIBA T3400 486SL-33MHz SUB NOTEBOOK

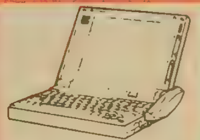
NEW



4MB RAM Expandable to 20MB
120MB Hard Drive • 3.5" 1.44 External Floppy Drive
PCMCIA II • 4.1 lbs.
4-8 hrs. battery life • 3 year warranty #1856862

$2499

IBM 486SX-25MHz 128MB COLOR NOTEBOOK



25MHz 80486SX CPU • 4MB RAM
3.5" 1.44MB Floppy Drive
128MB Hard Drive • Serial/Parallel
VGA Output Built-in Fax/Modem • 5.7lbs.
Model 2168-C45 #1772586

$2699

4MB LASER PRINTER MEMORY

FOR HP4, IIIsi, and HP 300XL

DELKIN DEVICES #1762228

$\$219^{99}$

VERBATIM DC2120 120MB UNFORMATTED DATA CARTRIDGE

Works with DJ 10 & 20,
Jumbo 120 & 250,
Tracker 120 & 250
#1823022

$\$12^{99}$

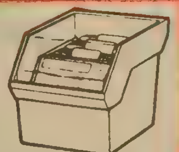
IDE I/O

**2 FLOPPY/
2 HARD,
2 SERIAL/
1 PARALLEL,
1 GAME PORT**

#1890743

$\$14^{95}$

3.5" DISKBOX

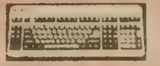


Holds 50 3.5" Diskettes
by Inland #1666988

$\$3^{99}$

Maxi Switch

ProKEY 124 KEYBOARD



ELIMINATES MANY REPETITIVE MOTIONS

Fully Programmable, Remapable and Versatile #1756931

$\$69^{99}$

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

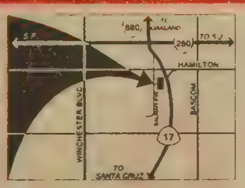
*Prices Good Through
March 29, 1994*

Limit Rights Reserved
Not Responsible For
Typographical Errors

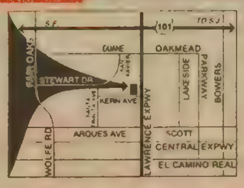
**STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM**

VISA AND MASTERCARD ACCEPTED

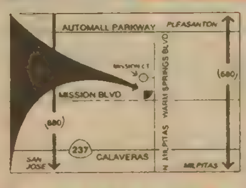
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

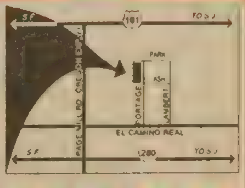
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
WOLFE RD
ARQUES AVE
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
WARM SPRINGS BLVD
680
MISSION BLVD
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
PORTAGE
ASH
LAMBERT
EL CAMINO REAL
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

386DX-40MHz
COMPUTER KIT-BUILD YOUR OWN

80386DX 40MHz CPU
Motherboard • 1MB RAM
3.5" 1.44MB Floppy Drive
IDE Floppy/Hard Controller
Case • Power Supply
Keyboard
#1842706

$279

486S-33MHz
VESA LOCAL BUS COMPUTER KIT

Cyrix 486SX-33MHz CPU • Motherboard
1MB RAM
3.5" 1.44MB Floppy Drive
IDE Floppy/Hard Controller
Case • Power Supply • Keyboard
#1869949

$399

486SLC2-50MHz
COMPUTER KIT

BUILD YOUR OWN SYSTEM

80486SLC2 50MHz CPU • Motherboard
64K Cache
1MB RAM • 3.5" 1.44MB Floppy Drive
16K Internal Cache
IDE Floppy/Hard Controller • Case
Power Supply • Keyboard
#1847697

$399

486SX-25MHz
VESA LOCAL BUS COMPUTER KIT

486SX-25MHz • 1MB RAM
3.5" 1.44MB Floppy Drive • IDE
Keyboard • Mini Tower • 2 VLB Slots
#1855263

$469

486SLC-33MHz
MINI TOWER KIT
BUILD YOUR OWN

486SLC-33MHz CPU • Motherboard
1MB RAM • 3.5" 1.44MB Floppy Drive
IDE Floppy/Hard Controller
Case • Power Supply • Keyboard
#1886757

$299

486SLC2-66MHz
VESA LOCAL BUS 210MB SVGA MULTIMEDIA SYSTEM

486SLC2-66MHz CPU • VESA Local Bus
4MB RAM • 3.5" 1.44MB Floppy Drive
210MB Hard Drive • SVGA Card • CD-ROM
Sound Card • Speakers
IDE Floppy/Hard Controller • Case
Power Supply • Keyboard
Monitor Not Included
#1891412

$1099

386DX-40MHz
MOTHERBOARD

0K EXPANDABLE TO
32MB
NO CACHE
#1810543

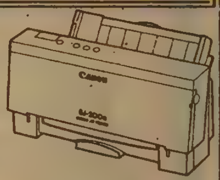
$109

486VLB-DX2-33MHz
MOTHERBOARD VESA LOCAL BUS KIT

486DX2 33 MHz, 256K C,
2 VESA Local Bus Slots,
Ali Chipset, No CPU
#1856323

$129

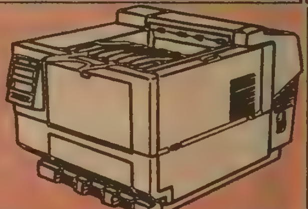
Canon
BUBBLE JET 200e PERSONAL DESKTOP PRINTER



- 360 dpi for Laser-Quality Graphics and Text
- Printing Speed Rivals 4 ppm Lasers
- 100 Sheets or 15 Envelopes
- EPA Energy Star Compliant
- 2 Year Limited Warranty #1879090

$319

SHARP
JX-9400
LASER PRINTER



6PPM • 300 DPI • 512K Ram Expandable to 4.5MB
250 Sheet Tray • 5000 Page Toner Supply Yield
Printer Emulation: HPPCL4, IBM Pro-Printer,
IBM Graphics Printer, Epson FX-80, Diablo 630
Parallel Interface • 1 Font Card slot
One Year Warranty
Sharp JX-9400
#1813498

$499

Charlie Chip Says:
"Your Best Computer Buys Are Always At...

Fry's ELECTRONICS

DATA CARTRIDGE CORNER

DYSAN
SAVE THE THINGS THAT MATTER MOST™
120MB DATA CARTRIDGE
1/4" tape, Unformatted
DY2120 #1781496
$\$13^{99}$

DYSAN
SAVE THE THINGS THAT MATTER MOST™
2120 DATA CARTRIDGE QIC-80 FORMATTED
1/4" TAPE • FORMATTED
#1783443
$\$15^{99}$

BM
024 X 768
4" SVGA
OLOR MONITOR
9mm Dot Pitch
MF • Very Low Magnetic Fields
t and Swivel
827543
$\$299$

PREVENT LAPTOP DAMAGE!
NOTEBOOK CARRYING CASE
BY SOLIDEX
Full Featured Economy, Black Notebook Bag
$\$28^{95}$
Model K-312
#1842670

1024 X 768
.28mm DOT PITCH
NON-INTERLACED
15" SUPER
VGA MONITOR

1024 X 768 • .28 Dot Pitch
Non Interlaced
IS1528N5 #1825611
$\$349$

FELLOWES.
MULTI MEDIA STORAGE TRAY

STORES 80
3½"
DISKETTES
STORES 60
5¼"
DISKETTES
STORES 16
CD-ROM
OPTICAL
DISKS

Stores 80- 3.5" Diskettes
or 60- 5.25" Diskettes
or 16- CD ROM or Data Cartridges.
#1648928
$\$4^{99}$

ACECAT PC
RAPHICS TABLET
MOUSE EMULATOR

00 Lines Per Inch
X 5" Active Area. Includes
lus-Pen and Comprehensive Utilities Diskette
luding Custom Drivers for Mouse, Windows, Control
nel and ADI. #1659900
$\$119^{99}$

DIAMOND VIPER 2MB VESA LOCAL BUS GRAPHICS ACCELERATOR
2MB VRAM Accelerated
#1855964
$\$399$

COLORADO MEMORY SYSTEMS INC.

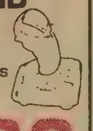
250MB TAPE BACK-UP
40/80/120/250 MB Format
Internal Drive runs off floppy controller
Uses DC-2120 Tapes
Model DJ-20
#1610068
$\$179$

ZOOM

INTERNAL 24,000 BPS FAX/MODEM
• V. Fast Class • Windows Fax Software #1871597
$\$199^{99}$

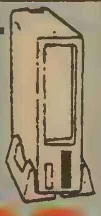
IDE FD/HD CONTROLLER
2 FLOPPY/
HARD W/CABLE
#1571077
$\$14^{99}$

QuickShot® by Bondwell
JOYSTICK w/GAME CARD FOR IBM AND COMPATIBLES



Adapter • Bio-Grip • Auto Fire
Ergonomic Design • 2 Fire Buttons
QS-120/123A #1545463
$\$19^{99}$

UNIVERSAL SYSTEM STAND



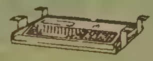
Vertical CPU stand frees up valuable desk space.
Adjustable stand holds units from 4.5" to 6.25"
#1619403
$\$5^{99}$

ANTEC INCORPORATED
Where Designing is a Science
TVIATOR PC TO TV PORTABLE PRESENTATION PARTNER
#1807525
$\$238$

3.5" EXTERNAL SCSI CASE ENCLOSURE
For SCSI Hard Drive, Tape, and CD-ROM KS-410+P
#1790432
$\$79^{95}$

XEROGRAPHIC LASER PRINTER/ COPIER PAPER
500 sheets of 20 lb., • 8 1/2" x 11"
#91960
$\$2^{39}$

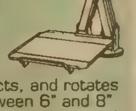
UNDERDESK KEYBOARD DRAWER



Space saving way to hold keyboard securely under the desk or counter. #1695827
$\$14^{99}$

MINI TOWER COMPUTER
WITH 200 WATTS OF POWER
#1742428
$\$59^{95}$

MONITOR MOVER K-ARM



Clears the work surface while keeping the keyboard and monitor within easy reach. Unit extends, retracts, and rotates 360 degrees. Adjusts between 6" and 8" above the desktop. Chrome handle extends to hold keyboard. Holds monitors with a footprint up to 12.5" x 12.5".
#1695908
$\$49^{99}$

SMC E16C ULTRA COMBO 8/16 BIT BUS
AUI/BNC/RJ45
Faster than 3 Comm III
10BaseT or THIN COAX
#1833302
$\$148^{95}$

Fry's ELECTRONICS
HOME OF FAST, FRIENDLY, COURTEOUS SERVICE
Limit Rights Reserved
Not Responsible For Typographical Errors
Prices good thru March 2, 1994

STORE HOURS
MON - FRI
8AM - 9PM
SATURDAY
9AM - 8PM
SUNDAY
9AM - 7PM

VISA AND MASTERCARD

CAMPBELL 600 E. Hamilton Ave. (408) 364-3700
CORPORATE P.O. FAX # (408) 364-3595
SUNNYVALE 1177 Kern Ave. (408) 733-1770
CORPORATE P.O. FAX # (408) 735-6800
PALO ALTO 340 Portage Ave. (415) 496-6000
CORPORATE P.O. FAX # (415) 496-6044
FREMONT 440 Mission Ct. (510) 770-FRYS (3797)
CORPORATE P.O. FAX # (510) 770-3700

Macintosh Compatible
Computers and Accessories

TOSHIBA
MULTIPLE FREQUENCY FLAT SCREEN
17" COLOR MONITOR

Resolution selectable from VGA to 1280 x 1024, with high resolution graphics. DAC (Dynamic Astigmatism Control) focus system with .31mm dot pitch and Invar Mask.

MAC
#1874958

$699

SUPERMATCH 17T
17" TRINITRON COLOR DISPLAY

Low-cost, large-screen color for business productivity applications. This 17" color display includes multiple modes, with supports for 1024X768 full-page-plus — the workspace of a 20" display, 832X624 WYSIWYG, and 640X480 magnified view resolutions; microprocessor-based controls for customizing your display to your environment; antidistortion technology; accurate 6500°K white point and "plug and play" compatibility with the motherboard graphics of the Macintosh Quadra.
#1822238

SUPERMAC TECHNOLOGY

$999

SUPERMATCH17
17" MULTIMODE COLOR DISPLAY

Low-cost, large-screen color for business productivity applications. This 17" color display includes multiple modes, with supports for 1024 X 768 full-page-plus — the workspace of a 20" display, 832 X 624 WYSIWYG, and 640 X 480 magnified view resolutions; automatically syncs to all popular Macintosh and PC timing, including VGA, SVGA and VESA; microprocessor-based controls for customizing your display to your environment; accurate 6500°K white point and "plug and play" compatibility with the motherboard graphics of the Macintosh Quadra.
#1822249

SUPERMAC TECHNOLOGY

$799

MAGNAVOX
640 x 480
14" MAC COLOR MONITOR

.28 Dot Pitch • 640 x 480
With Cable
CM2080
#1748516

$269

UMAX COLOR FLATBED SCANNER

UP TO 1200 DPI AVAILABLE FOR MAC

The LC630LE is a great scanning solution. It has the tools for creating presentation materials, neweslетters, brochures, flyers, invitations and more. Maximum resolution 1200 x 1200 dpi. Hardware resolution 300 x 600 dpi
MAC
#1795426

$699

radius
15" PRECISION COLOR PIVOT

With the 15-inch Precision Color Pivot in the portrait position, you can generate word processing output such as letters, contracts, and memos. With a quick flip to the landscape position, you can create spreadsheets, charts, graphs, and presentations. And you won't have to worry about any drop-off in productivity because you won't need to log-off or shut down the display while switching between landscape and portrait applications.

#1827783

$799

radius
PRECISIONCOLOR 24XP 24-BIT COLOR

NU .BUS Macintosh
Video Card
232 X 624 24bit color

$449

#1827886

KENSINGTON™
EXPERT MOUSE 4.0

NEW

High Quality Trackball
for PC & Compatibles
Microsoft Compatible
2 Buttons • Serial Version
#1818367

$\$89^{99}$

FARALLON APPLETALK CONNECTOR

Apple MAC phone connector
DIN 8
PN/350
#1743979

$\$19^{99}$

VOMAX 2000
THE ULTIMATE MOBILE AND HOME OFFICE - VOICE MAIL/FAX MAIL/MODEM

- World's first Voice and Fax Mail Box
- Stand alone digital answering device
- Remote retrieval of voice and fax messages
- Automatic store and forward voice and fax
- Pager Notification
- Date and time stamp
- Single line automatic operation
- PC DOS, Windows and MAC support
- Group III fax compatibility
- Touch tone programmable
- TV Fax voice annotation

$\$269^{99}$

#1796689

EXTERNAL DATA/FAX
MODEM DATA PORT™ 14.4/FAX

All-in-one high-speedV.32bis fax modem. Delivers the highest performance, reliability, and compatibility in the industry. Tested, proven the leader in connecting calls, even on noisy, impaired lines. The DataPort 14.4/Fax Modem delivers data at line speeds up to 14,400 bps. That's fast! But combined with its advanced, optically-coupled phone line interface and V.42bis data compression and error correction, you gain effective data throughput of up to 57,600 bps-nearly 24 times faster than 2,400 bps modems-on "real world" phone lines! This high performance significantly saves long distance costs. The DataPort 14.4/Fax Modem expands your personal computer into a fax workstation. You can send and receive presentation-quality faxes, without waiting in line.

$\$199^{99}$

#1787207

TEXTUAL TRANSFERANCE TECHNOLOGY
SCANMAN 32
WITH OCR SOFTWARE

- 100-400 DPI resolution
- 32 Shades of Grey
- Includes Catchword Pro Logitech's Intelligent character recognition Software and OCR Software. Accurate and Easy to Use.

MAC
#1661248

LOGITECH

$\$279^{99}$

FOTOMAN™ PLUS DIGITIAL CAMERA FOR COMPUTERS
From Camera To Computer Instantly! For the Macintosh.

FotoMan™ Plus lets you add full 256 gray scale images to your documents with just the press of a button. There's no film, no developing and no waiting! Small and lightweight. Takes up to 32 pictures at a time from distances of three feet to infinity. Preview, select and then edit your photos. Enhance photos with FotoTouch™ Image Editing Software for Windows™. Save images in TIFF, EPS, PCX and BMP formats. Comfortable for right or left-handed use. Built-in flash for great indoor pictures.
#1830446

LOGITECH

$549

COSTAR 40100
AddressWriter Printer

IBM or MAC
Envelope, Lables, Postcard
w/Software and cables
#1660948

CO STAR

$299

STINGRAY
TRACKBALL
50100 PLT ADB

200 CPI
Works on all MACs*
*Except 128, 512, +

#1660122

CO STAR

$\$69^{99}$

GLOBAL VILLAGE FAX/MODEM

Global Village Communication

POWER PORT BRONZE
2400BPS MODEM / 9600 BPS FAX
FOR THE MACINTOSH® POWERBOOK™

PowerPort/Bronze adds affordable send and receive fax and data modem services to your Macintosh Powerbook. PowerPort/Bronze lets send faxes at 9600 bps and receive faxes at 4800 bps. PowerPort/Bronze is fully internal and fully portable. It fits completely inside the modem slot of any PowerBook computer and will not require a separate battery or power supply.
#1735635

Global Village Communication

$99

9600 BPS MODEM/ 9600 BPS FAX FOR THE MACINTOSH®

PowerPort/Silver is the best price/performance send and receive fax and data modem for your Macintosh PowerBook. If you send and receive faxes, communicate on-line, and are a moderate to heavy user of remote network dial-in software such as AppleTalk Remote Access (ARA), PowerPort/Silver is the product for you.
#1780842

Global Village Communication

$279

14,400 BPS MODEM/ 9600 BPS FAX FOR THE MACINTOSH®

PowerPort/Silver is the best price/performance send and receive fax and data modem for your Macintosh PowerBook. If you send and receive faxes, communicate on-line, and are a moderate to heavy user of remote network dial-in software such as AppleTalk Remote Access (ARA), PowerPort/Silver is the product for you.
#1780831

Global Village Communication

$299

Home of Fast, Friendly, Courteous Service

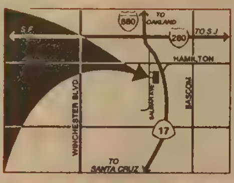
Fry's ELECTRONICS

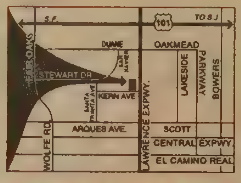
Prices Good Through March 29, 1994

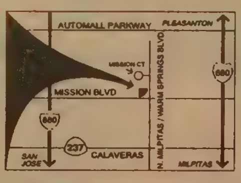
Limit Rights Reserved
Not Responsible For
Typographical Errors

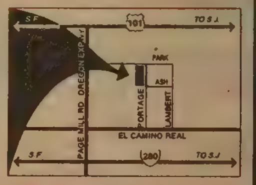
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED









CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX #'s

Apple® Macintosh® Computers and Accessories

Authorized Reseller

Authorized Reseller

Interex® Computer Products

105 KEYBOARD

Compatible Mac Keyboard

with Wave Design from Interex Computer
#1869215

$95⁹⁹

Interex® Computer Products

POWERPLANT FOR POWERBOOKS

from Interex Computer
#1869259

$89⁹⁹

Interex® Computer Products

DOCKING ADAPTER

with switch from Interex Computer
#1869318

$24⁹⁹

Interex® Computer Products

MAC A-B-C-D SWITCH

with 8 PINS WIRED from Interex Computer
#1869293

$16⁹⁹

Interex® Computer Products

POCKET CHANGE

Keeps Unit Live While You Change Battery!
#1869330

$19⁹⁹

NU DESIGN EXTERNAL 105MB HARD DRIVE

105MB EXTERNAL HARD DRIVE FOR MAC
#1842131

NU DESIGN **$249**

EXTERNAL 14,400 BAUD FAX/MODEM FOR MAC

External 14,400 Baud Fax/Modem MNP 2-5 Hardware • V.42BIS • For Macintosh
#1821400

$159

KENSINGTON™

TURBO ADB MOUSE TRACKBALL

ADB Trackball for all MAC with an ADB port.
#1711392

$99⁹⁹

KIDZ MOUSE

FOR THE MACINTOSH

Kidz Mouse Makes Learning With Computers Easy And Fun!

It includes both The Dinosaur Discovery Kit™ software from First Byte™ and Mouseware™ for kids.

- Designed to perfectly fit a childs hand
- Built to last; Lifetime Warranty
- Microsoft Compatible
- Two Buttons #1738708

LOGITECH **$29⁹⁹**

MAC & FAX® 14,400 BAUD EXTERNAL FAX/MODEM

A combination fax and modem designed for use with the Macintosh. Send and receive Group III fax transmissions. Supports data speeds from 300 to 14,400 and fax speeds from 2400 to 14,400. Fully CCITT V.32 bis and CCITT V.29 compatible. Includes V.42/ MNP 2-4 error control and V.42 bis/MNP 5 data compression for thoughput of up to 57,600 bps.
#1759923

USRobotics **$199**

Broderbund

MYST

Myst is an adventure game unlike any other, with stunning 3-D photo realistic worlds. Myst is a surrealistic exploration, where every vibrant rock, scrap of paper and sound may hold vital clues to your unraveling a chilling tale of intrigue and deceit.

Mouse, hard disk, System 7.01 or higher and a CD-ROM drive required

MAC
#1838260

$49⁹⁵

The Learning Company

Reader Rabbit 2

Reader Rabbit 2 is designed to motivate first and second grade level children to read on their own as they build a foundation for successful reading. It helps children with:

Word Building
Vowel Sounds
Word Concepts
Early Dictionary Skills

MAC
#1747386

$38⁹⁵

Broderbund

PRINT SHOP DELUXE

FOR MACINTOSH

Print Shop designs and prints cards, stationery, flyers, calendars and banners.

MAC
#1850062

$49⁹⁵

Microsoft Excel 4.0 For Mac

MS Excel leads the Macintosh spreadsheet market in case of use, design innovation, and integration. New features of 4.0 include:Drag & Drop • Customizable Toolbars Auto Fill/Auto Fit • Auto Select • Shortcut Menus • View manager and a lot more.

MAC
#1705500

$288

Intuit

Quicken VERSION 4.0 FOR MAC

Quicken 4.0 for Mac is the fastest, easiest way to organize personal and small business finances. This award winning and best selling finance software includes:

- Investment Tracking
- Loan Amortization
- Tax Schedule reports and links
- Over 100 New Features

#1798072

$46⁹⁵

MacInTax

1040 1993 FINAL EDITION

Discover the New EasyStep™ System.

MacInTax gives you total control over completing your tax return. It's convenient status bar lets you click on a button and jump right to the tax help you need. It imports figures from Quicken, and other financial software packages. It's System 7 compatible and includes balloon help.

MAC
#1763872

Intuit **$42⁹⁵**

After Dark

After Dark provides over 30 different displays to prevent screen burn-in. You can choose any style including lightning bolts, abstract art, crawling worms, a jump-to-light-speed or a basic dimmer.

MAC
#1484050

BERKELEY SYSTEMS **$27⁹⁵**

SYMANTEC

Norton Utilities 2.0

The Essential Utility Solution for Data Recovery, Protection, and Backup

Norton Utilities 2.0 now includes two award-winning softwares: Norton Utilities and SUM. The combination of these two products will provide you with advanced disk repair and data recovery, automatic backup, data security and productivity enhancements.

MAC
#1693548

$109⁹⁵

DELRINA

FaxPro For Macintosh

THE BEST WAY TO SEND, RECEIVE & MANAGE FAXES ON A MACINTOSH

With Delrina Fax PRO for Macintosh you can conveniently send faxes directly from your Mac. And, you'll also receive faxes directly into your computer so they'll never sit unnoticed.

MAC
#1844317

$89⁹⁵

Broderbund

PRINT SHOP DELUXE

FOR MACINTOSH

Print Shop designs and prints cards, stationery, flyers, calendars and banners.

#1850062

$49⁹⁵

Home of Fast, Friendly, Courteous Service

FRY'S ELECTRONICS

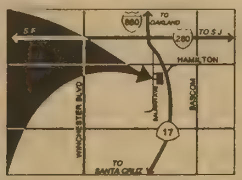
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

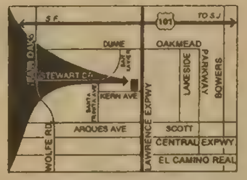
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

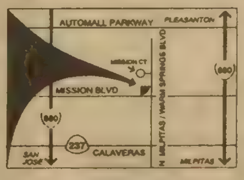
CORPORATE P.O. FAX #'s



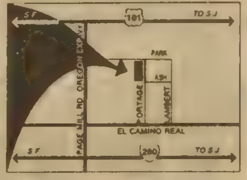
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

Apple® Macintosh®
Computers and Accessories

Authorized Reseller

Authorized Reseller

MASS microsystems

MASS EXTERNAL SYQUEST 88 MAC

R/R 44 AND 88MB CARTRIDGE
20MSEC ACCESS WITH SOFTWARE
DP88C01
#1796748

$469.99

MASS microsystems

MASS EXTERNAL SYQUEST 44 MAC

44MB EXTERNAL SYQUEST
20MS ACCESS WITH SOFTWARE
DD01P
#1777938

$299.99

MASS microsystems

MASS FLOPTICAL 21 MAC

21MB FLOPTICAL DRIVE
FOR MAC
80MS
FP21
#1777983

$329.99

MASS microsystems

MASS EXTERNAL SYQUEST 105 MAC

105MB EXTERNAL SYQUEST
FOR MACINTOSH
14.5MS ACCESS WITH
SOFTWARE CARTRIDGE
DP105 #1796704

$629.99

MASS microsystems

MASS PORTABLE POWER PAK

FOR USE WITH MASS MICRO
2" EXTERNAL HARD DRIVES
#1796737

$29.99

MASS microsystems

245MB MAC EXTERNAL 2" HARD DRIVE

245MB EXTERNAL FOR MAC
15MS ACCESS
#1837616

$229.99

MASS microsystems

210MB MAC EXTERNAL 2" HARD DRIVE

210MB EXTERNAL FOR MAC
15MS ACCESS
DD120P2
#1777927

$349.99

MASS microsystems

245MB MAC EXTERNAL HARD DRIVE

245MB EXTERNAL FOR MAC
15MS ACCESS
#1837627

$349.90

MASS microsystems

MASS EXTERNAL 245MB VERTICAL HARD DRIVE

245MB EXTERNAL HARD DRIVE
FOR MAC
15MS ACCESS
DD245V #1837638

$399.99

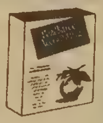
MASS microsystems

MASS EXTERNAL 320MB VERTICAL HARD DRIVE

320MB EXTERNAL HARD DRIVE
FOR MAC
15MS ACCESS
DD320 #1837649

$499.99

PEACHTREE ACCOUNTING FOR MAC



For Small Business Accounting Ease

An integrated accounting package featuring General Ledger, Accounts Receivable, Accounts Payable, Payroll, Inventory, Job Costing, Bank Reconciliation and Purchase Order. Features On-Line help and interactive tutorial for ease of use.

MAC #1734818

Peachtree **$119.95**

Microsoft Word 5.1 For Macintosh

Microsoft
WORD

Discover the biggest thing to happen to business documents since the typewriter. Now it's a snap to mix text, graphics,images, data and create tables.

MAC
#1658013

$284.95

BERKELEY SYSTEMS

THE DISNEY COLLECTION SCREEN SAVER

The Disney Collection Screen Saver will take you to the magical world of Disney with your favorite characters. Includes five classic Disney songs. Features over 15 colorful animated Disney displays. Classic Disney voices and sounds. Runs all After Dark 2.0 displays and more

MAC
#1819863

$29.95

Davidson.

MATH BLASTER Plus! For Mac

New Math Blaster Plus rockets into a new dimension with cosmic new activities and graphics, including an arcade style game which is out of this world. It covers addition, subtraction, multiplication, division, fractions, decimals, percents and teaches over 750 math facts and problem solving skills.

MAC
#1523650

$32.95

VELOCITY

SPECTRE VR MAC

Spectre VR is not just another game, it's another reality. Features:

- Build your own virtual world with VRchitect™ cyberspace editor.
- You can play with eight participants in over a dozen enhanced network scenarios
- Cyber Dogfight and more.
- Use cyber-blasts... to win the battle.
- All new graphics and texture-mapped VR realism and a lot more!

MAC
#1863149

$39.95

THE SOFTWARE TOOLWORKS

CHESSMASTER 3000 TURBO

The Chessmaster 3000 Turbo incorporates the world champion 32-bit chess engine along with dazzling graphics, and modem and networking capability- raising computerized chess to a new level of excellence!

MAC
#1838226

$32.95

MacTools DELUXE 3.0

Disk repair that's so advanced, it's simple. Now with AutoCheck, MacTools Deluxe includes Disk Repair, Trash Recovery, File Restoration, Anti-Virus, Backup, Disk Optimization, and FastCopy Duplication.

Central Point Software, Inc.

MAC
#1859267

$94.95

READER RABBIT'S Ready for Letters

Reader Rabbit's

Six delightful encouraging activities . Provides children with a variety of play environments. Exciting color graphics. Digitized speech entices pre-readers to explore and learn. No reading required – your child plays independently!

MAC
#1798108

$39.95

KAI'S POWER TOOLS 2.0

Graphic Design, Print, Animation, 3D Rendering, Multimedia, Video – No matter what kind of art you do or use Kai's Power Tools gives you greater license to express yourself. Kai's Power Tools comes with 33 powerful plug-in filters and extensions. KPT works inside Adobe Photoshop, Fractal Design Painter, Color It!, Pixel Paint Professional 3.0, JAG II, Deneba Canvas, Avid Videoshop, Adobe Premiere and other plug-in compatible programs.

MAC
#1881431

$94.95

THE 7TH GUEST MAC CD-ROM

The Seventh Guest is the first interactive drama in a terrifyingly real, virtual environment complete with live actors. Key Features:

- 22 fully-rendered rooms to explore in a fully 3-D haunted mansion with ghostly surprises lurking in every shadow.
- Video clips with live actors.
- Bizarre games and puzzles.

MAC
#1828304

$54.95

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

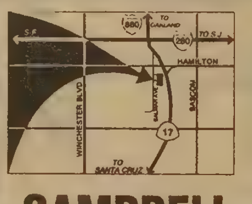
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

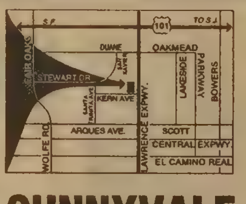
STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

VISA AND MASTERCARD ACCEPTED

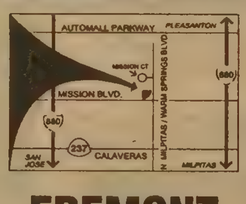
CORPORATE P.O. FAX #'s



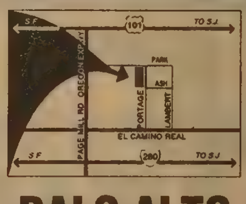
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

EPSON®

WHEN YOU'VE GOT AN EPSON
YOU'VE GOT A LOT OF COMPANY

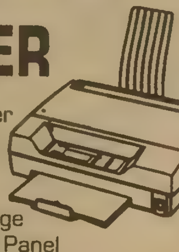
EPSON'S NEW SCALABLE FONT DOT MATRIX PRINTERS HAVE BEEN WILDLY SUCCESSFUL - AND FRY'S HAS THEM!

EPSON Roman and San Serif- SCALABLE From 8 To 32 Points
9 Resident Bit-Mapped Fonts As Well As Top, Rear, Bottom and Front Paper Feed Paths • Automatic Single Sheet and Continuous Form Convertible Push/Pull Tractor • True 360 X 360 DPI Resolution for Professional Quality Graphics • 2 Year Warranty

---

EPSON® *ActionPrinter™* 3250

24-PIN IMPACT DOT MATRIX PRINTER



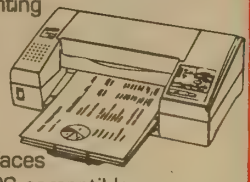
- 50 Sheet Paper Cassette Tray
- Quiet
- ESC/P2 Control Language
- Simple Control Panel
- Scalable fonts
- Two Year Warranty

Model AP-3250
#1667299

$178

EPSON®

STYLUS 300 INK JET PRINTER



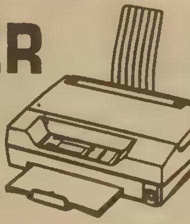
- Sharp, ink jet printing at 360 dpi
- Whisper-quiet 45 dB(A) • Fits in anywhere (17" x 10.5")
- Six different typefaces Windows and DOS compatible
- 100 sheet paper tray

#1853490

$248

EPSON® *ActionPrinter™* 2250

9-PIN IMPACT DOT MATRIX PRINTER



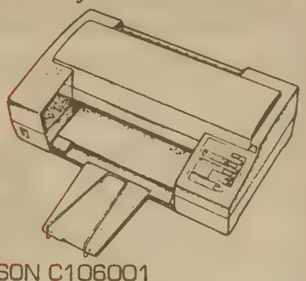
- 50 Sheet Paper Cassette Tray
- 240 CPS Draft, 48 CPS NLQ
- Quiet
- 2 Year Warranty

#1729120

$123

EPSON

Stylus™ 800 INK JET PRINTER

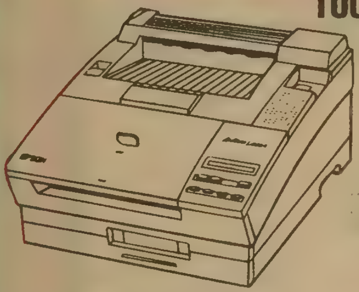


- EPSON C106001
- Stylus 800 Ink Jet Printer (2 year warranty)
- 360 X 360 DPI "Laser-Sharp" printing
- ESC/P2 Letter Quality Type Faces with 4 Scalable Fonts

#1782785

$289

EPSON® *ActionLaser* 1000

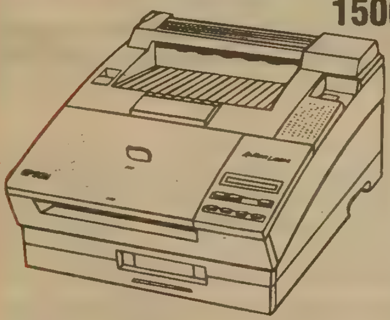


- Fast six pages per minute print speed
- HP LaserJet IIP and Epson dot matrix compatible
- 14 resident fonts
- 512KB memory expandable to 6.5MB
- 6000-page imaging cartridge
- Two year limited warranty

#1760237

$599

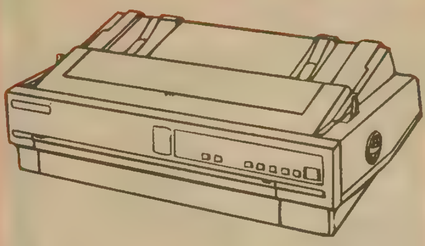
EPSON® *ActionLaser* 1500



- Fast six pages per minute print speed.
- 300 X 300 dpi resolution with MicroArt printing and RITech technology
- 14 resident fonts, 13 scalable to any size
- LaserJet™ III and Epson dot matrix compatible
- 1MB memory expandable to 5MB on motherboard

#1798706

$678

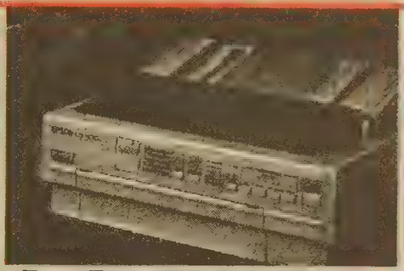


LQ-1070 PLUS 24-PIN PRINTER

- 136 Column
- 269 CPS Draft
- 10 Fonts
- 2 Scalable Fonts
- 252 CPS Draft Mode
- 84 CPS NLQ Mode

#1821927

$398



LQ-570+ 24 PIN PRINTER

WITH SCALABLE FONTS!

- 80 Column • 269 CPS Draft Mode
- 112 CPS Letter Quality
- Four Scalable Fonts
- 360 dpi with Optional Film Ribbon

#1612004

$238

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

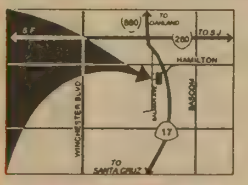
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

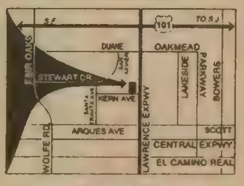
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

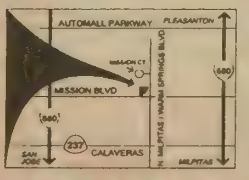
CORPORATE P.O. FAX #'s


S.F.
(880)
TO OAKLAND
(280)
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

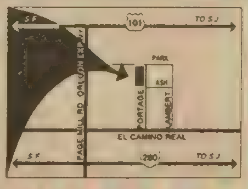
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
WOLFE RD
ARQUES AVE
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
(680)
(880)
237
CALAVERAS
SAN JOSE
N. MILPITAS / WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
ASH
PAGE MILL RD. OREGON EXPWY
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

WE'LL BEAT ANY IBM PRICE IN TOWN

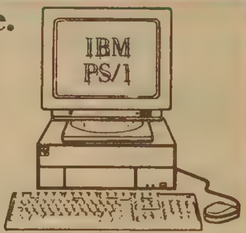
WE GUARANTEE IT!!!

IBM®PS/1®with Rapid Resume.

2133-13T

486SX-25MHz

129MB VGA SYSTEM



MONITOR SOLD SEPARATELY

Intel 486SX 25MHz CPU
129MB Hard Drive
4MB Memory Expandable to 64MB
3.5" 1.44MB Floppy Drives • 3 AT Slots
IBM Mouse • IBM Keyboard • Internal Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
Monitor not included.
#1811371

**IBM and Personal System/1 are registered trademarks of International Business Machines Corporation*

IBM®

$899

IBM®PS/1®with Rapid Resume.

2155-74T

486SX-25MHz

170MB SVGA MULTIMEDIA SYSTEM

MONITOR SOLD SEPARATELY

Intel 486SX 25MHz CPU • 170MB Hard Drive
8K Cache • 4MB Memory Expandable to 64MB
3.5" 1.44MB Floppy Drives • Local Bus SVGA
CD-ROM • AUDIO card • Speakers • CD Software
IBM Mouse • IBM Keyboard • Internal Modem • 5 AT Slots • Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1811496

INCLUDES SMART ENERGY SYSTEM

The Energy Star Emblem does not represent EPA endorsement of any product or service.

**IBM and Personal System/1 are registered trademarks of International Business Machines Corporation*

IBM™

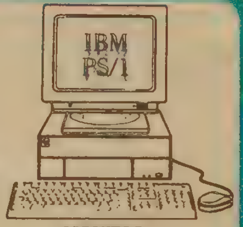
$1599

IBM®PS/1®with Rapid Resume.

2155-41T

486DX2-50MHz

340MB SVGA SYSTEM



MONITOR SOLD SEPARATELY

Intel 486DX2 50MHz CPU • 340MB Hard Drive
4MB Memory Expandable to 64MB • 8K Cache
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • Local Bus SVGA
IBM Mouse • IBM Keyboard • FAX/Modem • Novell® certified
Preloaded Software: MS DOS 6.0
Microsoft Windows 3.1 Microsoft Works for Windows PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1826508

INCLUDES SMART ENERGY SYSTEM

The Energy Star Emblem does not represent EPA endorsement of any product or service.

**IBM and Personal System/1 are registered trademarks of International Business Machines Corporation.*

IBM®

$1699

IBM®PS/1®with Rapid Resume.

2155-50T

486DX2-66MHz

253MB SVGA SYSTEM

MONITOR SOLD SEPARATELY

Intel 486DX2 66MHz CPU • 253MB Hard Drive
4MB Memory Expandable to 64MB • 8K Cache
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • Local Bus SVGA
IBM Mouse • IBM Keyboard • FAX/Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1811452

INCLUDES SMART ENERGY SYSTEM

The Energy Star Emblem does not represent EPA endorsement of any product or service.

**IBM and Personal System/1 are registered trademarks of International Business Machines Corporation.*

IBM™

$1899

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

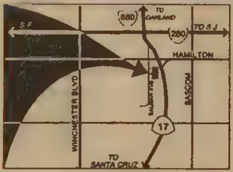
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

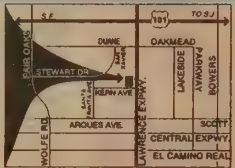
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
TO S.J.
280
HAMILTON
WINCHESTER BLVD.
BASCOM
17
TO SANTA CRUZ

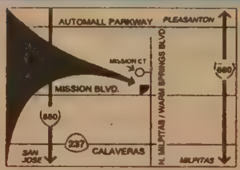
CAMPBELL

600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
FAIR OAKS
STEWART DR.
KERN AVE
LAWRENCE EXPWY.
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
SCOTT
CENTRAL EXPWY.
EL CAMINO REAL
WOLFE RD.

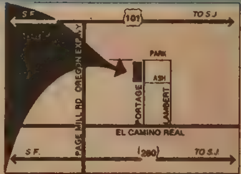
SUNNYVALE

1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD.
880
680
237
CALAVERAS
SAN JOSE
MILPITAS
N. MILPITAS / WARM SPRINGS BLVD.

FREMONT

440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
ASH
PORTAGE
LAMBERT
PAGE MILL RD. OREGON EXPY.
EL CAMINO REAL
280

PALO ALTO

340 Portage Ave.
(415) 496-6000
(415) 496-6044

BACK-UP DRIVES

120MB TAPE BACKUP

- Average Capacity of 120MB with data compression
- Plugs into floppy controller
- Built-in error correction code
- 90 days warranty

Excel 60F #1871531

$79

COLORADO MEMORY SYSTEMS INC.

120 MB TAPE BACK-UP

40/60/120MB FORMAT
Back up any size drive from 40MB to 120MB
Runs off Floppy Disk Controller
Internal XT/AT Drive
DJ-10 #1498817

$99

SUMMIT™ MEMORY SYSTEMS INC.

250MB TAPE BACK-UP

250MB Internal Tape Backup
Runs off of Floppy Controller
Central Point Software For Windows & DOS • 2 Year Warranty
Model SE250 #1635586

$179.95

AUTOBAHN 250MB TAPE EXTERNAL BACK-UP

PARALLEL PORT PLUG-IN
CENTRAL POINT BACK-UP SOFTWARE
#1810082

$299.95

FUJITSU

128MB EXTERNAL MAGNETO OPTICAL

Includes cartridge, installation kit and manual #1842496

$899

HEWLETT PACKARD

5 GIGABYTE DATA TAPE BACK-UP

4MM SCSI • 783KB Per Second • About 47MB Per Minute #1842153

$1249

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

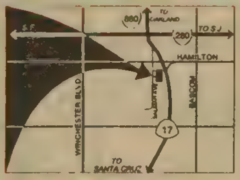
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

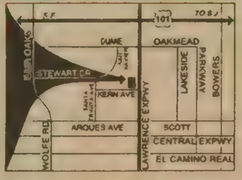
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

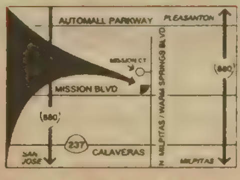
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
SALMAR AVE
BASCOM
17
TO SANTA CRUZ

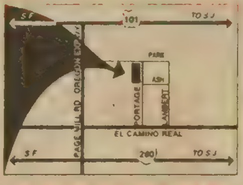
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S J
DUANE
OAKMEAD
FAIR OAKS
STEWART CR
SANTA TRINITA AVE
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
LAWRENCE EXPWY
WOLFE RD
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
880
880
237
CALAVERAS
SAN JOSE
N MILPITAS / WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
PARK
ASH
PAGE MILL RD
OREGON EXPWY
PORTAGE
LAMBERT
EL CAMINO REAL
S F
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

MODEMS

Telecoupler® II

High Speed Modem Coupler

Connects a Portable Computer to Any Telephone Easily.

- Accoustic coupling with telephone handset
- Industry standard telephone to modem connector RJ-11
- Full or Half Duplex Communication Mode

#1847790

CP+

$109

Tele-Travel Kit

INTERNATIONAL

Fax, Connect and Communicate...World Wide

Connects your modem to virtually any telephone handset with the necessary cables, connectors and adaptors with the Telecoupler II high-speed modem coupler.

#1847815

CP+

$189

ZOOM 28.8 BPS INTERNAL FAX/MODEM

- V.Fast Class Data
- V.32bis, V.42bis
- 7 Year Warranty
- DOS and Windows
- Communication Software

#1871645

$289.99

PRACTICAL PERIPHERALS® FaxMe

PROUDLY MADE IN THE U.S.A.

Introducing the plug-in cartridge that turns an HP LaserJet printer into a plain paper receive FAX machine.

FaxMe turns your HP printer into a receive only fax machine. It is compatible with all Group III fax machines and will receive at 9,600, 4,800, or 2400 BPS. FaxMe runs without software and without a computer. Lifetime Warranty.

#1741771

$129.99

14.4 BPS EXTERNAL FAX/DATA MODEM

DATA & FAX MODEM
14400

V.32 bis • V.42, V.42 bis MNP 2-5 • Cables
Fax Software for Windows included

#1884928

$129.99

National Semiconductor TyIN 2000™

COMPUTER ENHANCEMENT GROUP

DATA FAX/MODEM

- Up to 9600bps with v.42bis over 2400bps data transmision.
- Data compression with v.42bis and MNP2-4.
- Hayes compatible.

ANSWERING MACHINE

- Unlimited mail boxes and messages (limited only by avaliable disk space).
- Digital voice compression.
- Full call progress and message monitoring
- Remote message retrieval
- Fax-and-touch-tone detection in parallel with outgoing message.
- Time/dating stamping. • Memo recording.

#1743887

$99.99

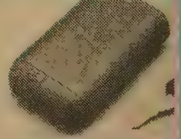
SMART ONE 14,400 BAUD INTERNAL FAX/MODEM

V.42bis • MNP Hardware
V.32bis • Class II
Throughput up to 57,600 bps
Quicklink II for DOS and Windows

#1871771

$119.99

MACRONIX MAXLITE/PC 14,000 POCKET MODEM SEND/RECEIVE FAX



V.32bis • Winfax

#1695366

$259.99

Intel Internal Faxmodem 24/96i

2400 bps Modem
9600 bps Fax

Make all the right connections. Intel connects you to the broadest range of modems and fax machines. Plus Intel gets you started with $107 worth of free on-line services. Put a new world of information at your fingertips. Pay bills electronically. Get the latest stock market report. All necessary communication and fax software for DOS and Windows is included as well as industry leading Intel technical support by phone. 24 hour fax and electronic bulletin board services.

#1805800

intel

$69.99

IBM 14,400 BAUD INTERNAL FAX/MODEM

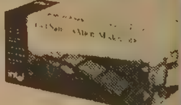
- 14,400 Baud Send/Receive Fax
- CCITT V.32bis, V.32
- MNP5
- For DOS and Windows

#1780163

Easy OPTIONS™ by IBM®

$149.99

Intel SatisFAXtion 400



INTERNAL 14,000 BAUD MODEM 9600 BAUD FAX

- Smart Line Sharing
- Smart UART buffering
- 80186 coprocessor for truebackground faxing.

#1699681

intel

$269

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

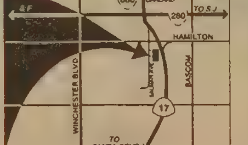
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

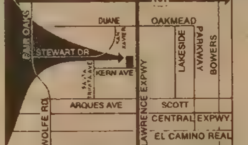
STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

VISA AND MASTERCARD ACCEPTED

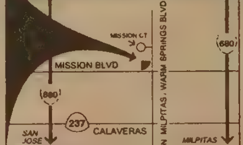
CORPORATE P.O. FAX #'s


S F
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

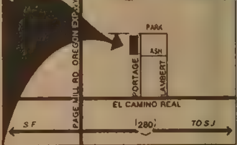
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S F
101
TO S J
FAIR OAKS
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
680
MISSION BLVD
880
237
CALAVERAS
SAN JOSE
N MILPITAS / WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
OREGON EXPWY
PAGE MILL RD
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

MONITORS

NEC

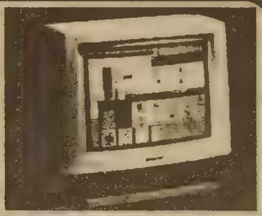
4FGE 1024 X 768 NON-INTERLACED 15" SUPER VGA MONITOR

1024 X 768
Non-Interlaced
Flat Screen Monitor
4FGE

$749

#1641459

SONY.



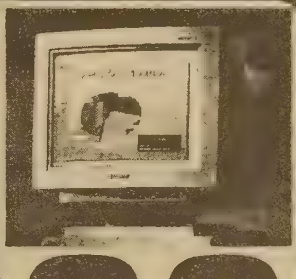
1024 x 768 NON-INTERLACED 14" SVGA MONITOR

1024 X 768 72HZ
Non-Interlaced
110/220 Microprocessor
Control

$569

Model 1430
#1756388

SONY.

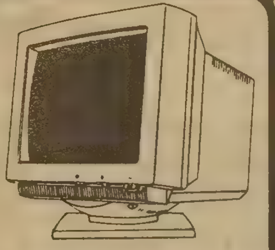


17" MULTISCAN TRINITRON MONITOR

1024 X 768 • .25mm Super Fine Pitch
Non-Interlaced • Digital Control
70Hz Refresh Rate At 1024 X768
Compliance With VLF/ELF Emissions
Model 1730
#1784570

$1099

SAMPO AMERICA



1024 X 768 NON-INTERLACED 14" SUPER VGA MONITOR

1024 X 768 Non-Interlaced
Flat Screen
INVAR Shadow Mask
70HZ Refresh VESA
15" Large Screen
SAMPO KDM-1466
#1691731

$349

MiTAC

1280 x 1024 NON-INTERLACED 15" SUPER VGA MONITOR w/DIGITAL CONTROL

1280 x 1024
- 15" Large Flat Screen

.28 Dot Pitch
- Non-Interlaced
- Digital Control

$399

#1855827

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

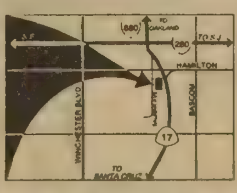
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

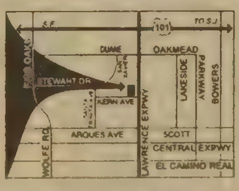
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA & MASTERCARD ACCEPTED

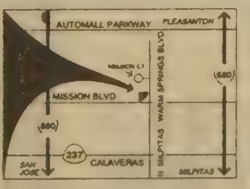
CORPORATE P.O. FAX #'s


S.F.
(880)
TO OAKLAND
(280)
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

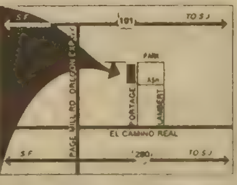
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
LAWRENCE EXPWY
WOLFE RD
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
WARM SPRINGS BLVD
(680)
(880)
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

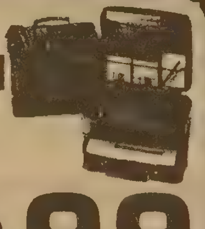

S.F.
101
TO S.J.
PARK
ASH
PAGE MILL RD OREGON EXPWY
PORTAGE
LAMBERT
EL CAMINO REAL
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CARRYING CASES

Samsonite

PORTABLE BLACK NYLON OFFICE CASE



Roomy compartment with foam-padded divider for laptop and other accessories. Interior portfolio for diskettes, documents, etc. External flap pocket holds printer and other accessories.
Main compartment:
14 1/2" x 10 1/2" x 2".
External pocket:
14 1/4" x 9 1/2" x 1 1/2".
Weight: 3 lbs. 4 oz.
#1885871

$69.99

Samsonite

TRADITIONAL BLACK LAPTOP BRIEFCASE

Roomy interior padded compartment for laptop and other accessories. 3-divider document compartment. Front exterior compartment with portfolio for files, diskettes, business cards and airline tickets. Zippered external pocket holds airline tickets, passports, etc.
Quick-release snaps for easy access to your laptop. Laptop compartment:
14" x 10 1/2: x 2"
3-divider compartment:
14" x 10 1/2" x 1 3/4"
Weight: 4 lbs. #1885907

$79.95

Samsonite

BLACK MODULAR LAPTOP BRIEF PLUS

Roomy 3-divider interior holds removable padded folio (included), files, and other accessories. Removable padded folio also includes a portfolio for diskettes, files, business cards and airline tickets. Zippered front external padded pocket holds other computer accessories, but also contains a second portfolio for other business documents. Quick-release buckles for easy access to your laptop or business documents. Side-mounted cellular phone pocket. 3-divider compartment:
14 1/2" x 11 3/4" x 4 3/4 "
Weight: 4 lbs. 2 oz.
#1885918

$99.95

Samsonite

OVERNITE COMPUTER CASE

Roomy 3-part interior providing: Laptop compartment with mesh divider plus portfolio for organized storage of documents, diskettes, pens, etc. Clothing compartment with strap tie-downs. 3-divider document compartment. Combination lock for added security. Two exterior folder pockets.
Laptop compartment:
16 1/5" x 12" x 2".
Clothing compartment:
16 1/2" x 12" x 4".
Divider compartment:
16 1/2" x 12" x 1 1/2"
Weight. 5 lbs. 12 oz.
#855929

$129.95

NOTEPAC Notebook Carrying Case

TARGUS
A TRADITION OF EXCELLENCE

14" x 11" x 2.5" (Interior Dimensions)
13" x 9" x 2" (Pocket Dimensions)
Compatible with Powerbook and all popular Notebooks. Available In Assorted Colors.
#1693283

$39

Foliopac 3 Deluxe NOTEBOOK CASE

TARGUS
A TRADITION OF EXCELLENCE

The Foliopac 3 is a full featured nylon case that will accommodate all popular models of "Notebook" style computers and all related accessories. Individual compartments are provided for an A.C. adaptor, extra battery pack, disks, cables and miscellaneous items.
Includes standard Targus quality components such as high-density foam padding, removable shoulder strap, self-healing nylon zippers and Zilicone treated Oxford nylon.
#1521197

$49.99

KENSINGTON™

COMPACT NOTEBOOK TRAVELER

Internal Dimensions
W-12" X
H-10" X D-2 3/4"
#1727564

$59.99

PREVENT LAPTOP DAMAGE!

TECHFOLIO I BLACK NOTEBOOK CARRYING CASE

BY SOLIDEX

The TechFolio I offers the convenience of a regular business portfolio, but provides additional padded compartments for mobile phone, notebook compter and other electronic accessories.
Model K-312
#1842670

$28.95

Fry's ELECTRONICS

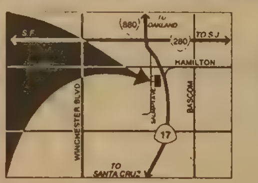
Home of Fast, Friendly, Courteous Service

Prices Good Through March 29, 1994

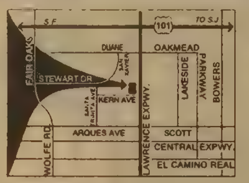
Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

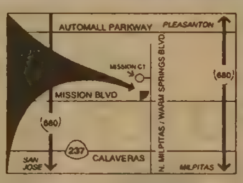
VISA AND MASTERCARD ACCEPTED
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
SALTAIRE AVE
BASCOM
17
TO SANTA CRUZ

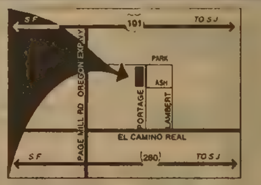
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
FAIR OAKS
DUANE
SAN XAVIER
OAKMEAD
STEWART DR
SANTA TRINITA AVE
KERN AVE
LAWRENCE EXPWY.
LAKESIDE
PARKWAY
BOWERS
WOLFE RD
ARQUES AVE
SCOTT
CENTRAL EXPWY.
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PAGE MILL RD OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

HARD DRIVES

CONNER

170MB 3.5" IDE HARD DRIVE

17ms Average Access • 32K Buffer • 1" Ht. • Low Power Consumption CP30174E #1656815

$189

Maxtor

213MB 3.5" IDE HARD DRIVE

3.5" X 1" HT. • 15MS Access Time 7213A #1694044

$229

Seagate

214MB IDE HARD DRIVE

1"HT • 3.5" Size ST-3243A #1853227

$219

Maxtor

245MB 3.5" IDE HARD DRIVE

3.5" Format • 1" Height • 15ms Access
MXT-7245A #1759934

$249

250MB 3.5" IDE HARD DRIVE

16.5 msec Access • IDE Hard Drive • 3.5" X 1" Height
One Year Warranty
#1886182

$215

SAMSUNG

250MB 3.5" IDE HARD DRIVE

3.5" Form Factor 1" Ht.
SHD3122A #1786011

$219

CONNER

250MB 3.5" IDE HARD DRIVE

12ms Average Access • 1" HT. • 3.5" Form Factor
CP30254 #1795356

$229

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

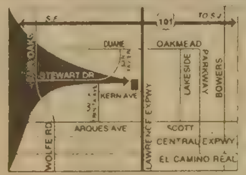
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

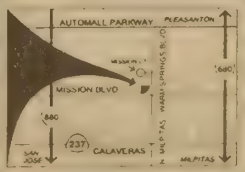
CORPORATE P.O. FAX #'s

880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

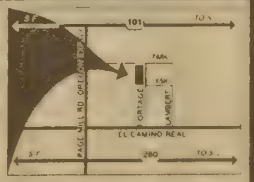
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION BLVD
WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


SF
101
PAGE MILL RD
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

HARD DRIVES

CONNER
340MB 3.5" IDE HARD DRIVE
$279

13msec Access • 3.5"
CP30344 #1825736

Quantum™
340MB 3.5" IDE HARD DRIVE
$299

12msec Access Time • 128K Cache #1874707

Maxtor
340MB IDE HARD DRIVE
$299

1" HT. • 15ms Access Time • 345MB Formatted Capacity
7345A #1781762

Seagate
340MB IDE HARD DRIVE
$299

1"HT • 12MS Access • 256K Cache • Bulk Pack
ST-3390A #1836246

SAMSUNG 355MB IDE HARD DRIVE
$279

355MB IDE HARD DRIVE • 3.5" X 1" HT. 13 MSEC; SHD-3172A#1880315

Maxtor
540MB 3.5" IDE HARD DRIVE
$549

3.5" X 1" HT • 8.5MS Access Time
540A #1802162

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

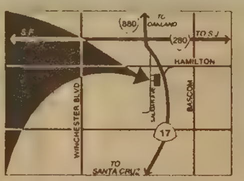
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

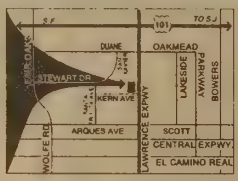
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

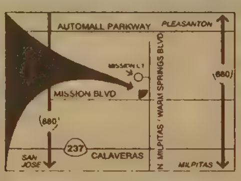
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S F
101
TO S J
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
LAWRENCE EXPWY
WOLFE RD
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
N MILPITAS / WARM SPRINGS BLVD
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

S F
101
TO S J
PARK
ASH
PORTAGE
LAMBERT
PAGE MILL RD OREGON EXPWY
EL CAMINO REAL
280

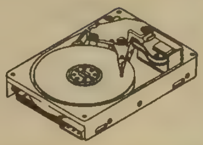
PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

SCSI HARD DRIVES

Maxtor

240MB SCSI HARD DRIVE

3.5" X 1"HT. • 15msec Access
7245S #1802195

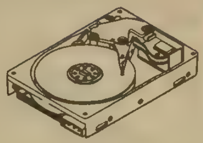


$299

Maxtor

345MB SCSI HARD DRIVE

3.5" X 1"HT. • 14msec Access
7345S #1807673

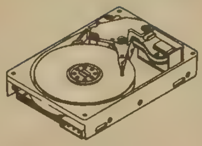


$398

CONNER

540MB SCSI HARD DRIVE

3.5" X 1"HT. • 10msec Access
CP-30540 #1802221

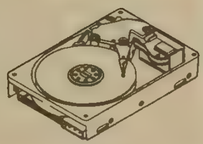


$699

Maxtor

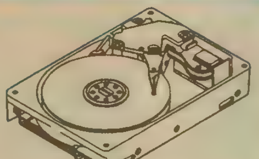
540MB SCSI HARD DRIVE

3.5" X 1"HT. • 8.5msec Access
540S #1802173



$699

TOSHIBA
1.2 GIGABYTE SCSI HARD DRIVE



12MS Access • 3.5" Size MK538FB #1769591

$1099

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

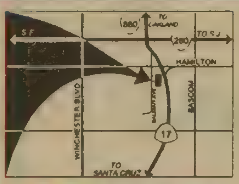
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

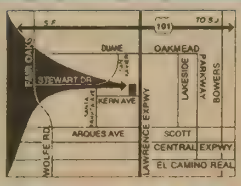
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX #'s


S F
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

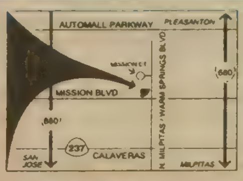
CAMPBELL

600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S F
101
TO S J
DUANE
OAKMEAD
FAIR OAKS
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

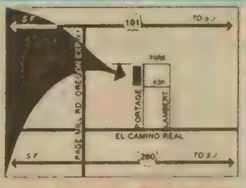
SUNNYVALE

1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT

440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
PARK
ASH
PAGE MILL RD. OREGON EXPWY
PORTAGE
LAMBERT
EL CAMINO REAL
280

PALO ALTO

340 Portage Ave.
(415) 496-6000
(415) 496-6044

MODEMS

INTERNAL DATA/FAX MODEM DATA PORT™ 14,400 BPS

All-in-one high-speed V.32bis Fax/Modem

Delivers the highest performance, reliability, and compatibility in the industry. Tested and proven to be the leader in connecting calls, even on noisy, impaired lines.

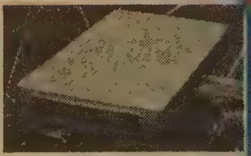
The DataPort 14.4/Fax Modem delivers data at line speeds up to 14,400 bps. That's fast! But combined with its advanced, optically-coupled phone line interface and V.42bis data compression and error correction, you gain effective data throughput of up to 57,600 bps—nearly 24 times faster than 2,400 bps modems—on "real world" phone lines! This high performance significantly saves long distance costs.

The DataPort 14.4/Fax Modem expands your personal computer into a fax workstation. You can send and receive faxes without ever waiting in line; and send presentation-quality faxes!

#1751420

AT&T

$158



EXTERNAL DATA/FAX MODEM DATA PORT™ 14,400 BPS

All-in-one high-speed V.32bis Fax/Modem

Delivers the highest performance, reliability, and compatibility in the industry. Tested and proven to be the leader in connecting calls, even on noisy, impaired lines.

The DataPort 14.4/Fax Modem delivers data at line speeds up to 14,400 bps. That's fast! But combined with its advanced, optically-coupled phone line interface and V.42bis data compression and error correction, you gain effective data throughput of up to 57,600 bps—nearly 24 times faster than 2,400 bps modems—on "real world" phone lines! This high performance significantly saves long distance costs.

The DataPort 14.4/Fax Modem expands your personal computer into a fax workstation. You can send and receive faxes without ever waiting in line; and send presentation-quality faxes!

#1751419

AT&T

$179.99

TheComplete PC

The Complete Modem Plus 9600 Baud FAX 2400 Baud Modem

Windows/DOS Software • Background Operation

#1644429

$39.99

COMPUTER PERIPHERALS, INC.

EXTERNAL 9600BPS SEND 4800BPS RECEIVE FAX 2400 BPS MODEM

CPI 504509

#1733150

ViVa MODEM

$69.99

INTERNAL 14,400 BPS FAX/MODEM

DATA & FAX MODEM
V.32bis
14400

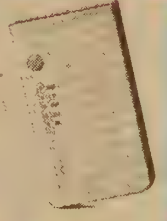
- V.32BIS V.42, V.42BIS, MNP 2-5,
- With Cable and Fax Software For Windows

#1874718

$109.99

COMPUTER PERIPHERALS, INC.

14,400 BAUD POCKET FAX/MODEM



14.4/14.4 Pocket Fax/Modem

57,600BPS MAX

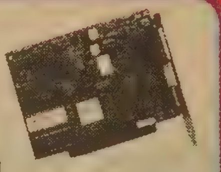
CPI 504107

#1809664

ViVa MODEM

$239.99

MACRONIX STEALTH 14,400 INTERNAL FAX/MODEM



For WIN • MNP 5 and V.42 BIS WINFAX LT and Microphone LT/Windows Software

#1810738

$129

USRobotics

The Intelligent Choice in Data Communications

Courier Terbo 19,200 BPS EXTERNAL FAX/MODEM

- Dial Back
- V.32
- V.42
- With ASL up to 57,600BPS

#1639030

$429.99

TurboModem™ PLUS INTERNAL 14,400 BAUD FAX/MODEM

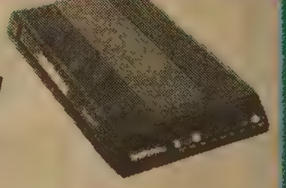
- TurboModemPlus Internal V.32 bis v.42 bis Data Modem/Fax Card
- Telephone Cord
- Powerful Data Communications Software

#1733183

TheComplete PC

$119.99

TurboModem™ PLUS EXTERNAL 14,400 BAUD MODEM 9600 BAUD SEND/RECEIVE FAX



TurboModem Plus External V.32 bis/v.42 bis Data Modem/Fax Unit

- Telephone Cord
- AC Adaptor(115V AC)
- Powerful Data Communications Software
- User Guides

#1733194

TheComplete PC

$149.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

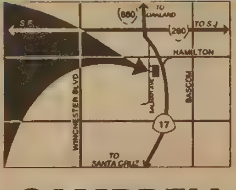
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

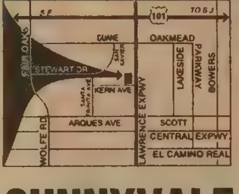
Prices Good Through
March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

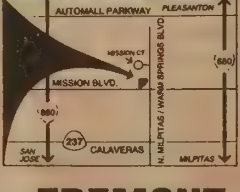
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

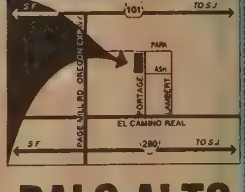
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
FAIR OAKS
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
680
MISSION BLVD.
880
N. MILPITAS / WARM SPRINGS BLVD
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PAGE MILL RD. OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CD-ROM

OMNI CD MULTIMEDIA UPGRADE KIT

- 300 KB/sec data transfer rate • 64KB RAM buffer
- Multi-session photo CD compatible
- 320ms access rate • 680MB data capacity
- Daisy-chain up to four Creative Labs drives
- CD-ROM XA ready

#1825714

CREATIVE
CREATIVE LABS, INC.

$229.95

TOSHIBA DUAL SPEED INTERNAL CD-ROM

SCSI CD-ROM • 200ms Access
256K Cache
330KB/sec Transfer Rate

$349

XM3401B
#1785618

OMNI CD EXTERNAL MULTIMEDIA UPGRADE KIT

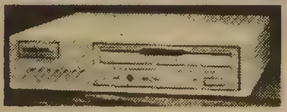
- 350 MS Access Time
- 300 KB/ sec Transfer Rate

#1867084

CREATIVE
CREATIVE LABS, INC.

$459.99

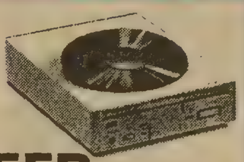
TEXEL DOUBLE SPEED EXTERNAL CD-ROM DRIVE



335KB/sec Data Transfer Rate
240ms Average Access Speed
64KB Buffer
CD-XA and Multisession Photo CD Support
DM-5028
#1835991

$379

REVEAL
COMPUTER PRODUCTS



INTERNAL DOUBLE SPEED CD-ROM DRIVE

Internal CD-ROM drive, Double Speed, 320ms access time, 300K Bytes data transfer rate. Multi-session Photo CD ready. Includes mounting hardware, cables and installation video.

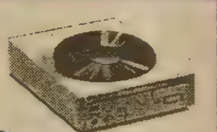
Grolier Encyclopedia Software

Includes Free Installation Video

$199

CDD02
#1853032

REVEAL
COMPUTER PRODUCTS



INTERNAL DOUBLE SPEED CD-ROM DRIVE WITH SIX CD TITLES

Internal CD-ROM drive; Double Speed, 320ms access time, 300K Bytes data transfer rate. Multi-session Photo CD ready. Includes mounting hardware, cables and installation video. Six CD software titles.

Includes Free Installation Video

$228

CDD11
#1853043

PHILIPS INTERNAL CD-ROM DRIVE

Sony Compatible • 375ms Access Time
153.6KB/S Transfer
Cable, Drivers and Interface Included
#1853249

$129

CD-ROM DRIVE

CD-ROM Drive
CDS-3110

- Kodak Multi-session Photo CD Compatible
- Double Speed - 300kbs / 350 ms - MPC Level II
- Supports CD-XA, CD-DA, CD-I Formats
- Motorized Tray Loading and Front Panel Controls
- Interface Card and Cable Included
- 64k Buffer

CDS-3110 #1849611

ORCHID

$188

MICROSOLUTION MOBILE MEDIA

BACKPAK

EXTERNAL CD-ROM

NO INTERFACE REQUIRED

External Portable CD-ROM Connects To Parallel Port
150KB Transfer Rate

$365

BP160550CD
#1798728

Home of Fast, Friendly, Courteous Service

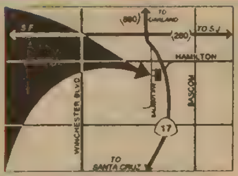
Fry's ELECTRONICS

*Prices Good Through
March 29, 1994*

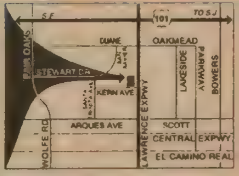
Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

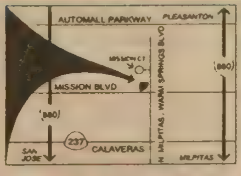
VISA AND MASTERCARD ACCEPTED
CORPORATE P.O. FAX #'s


S F
(880)
TO OAKLAND
(280)
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

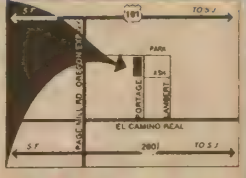
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S F
101
TO S J
DUANE
OAKMEAD
FAIR OAKS
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
LAWRENCE EXPWY
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
(880)
(680)
237
CALAVERAS
SAN JOSE
MILPITAS, WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
PARK
PAGE MILL RD OREGON EXPY
PORTAGE
LAMBERT
EL CAMINO REAL
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

SONY.
STORAGE MEDIA

2DD 3.5" DS/DD DISKETTES
BOX OF 10
#121269
$6.99

SONY
2DD
1MB

2DD 3.5" DS/DD FORMATTED DISKETTES
BOX OF 10
#1551200
$7.49

SONY
FORMATTED
2DD

2HD 3.5" DS/HD HI-DENSITY DISKETTES
BOX OF 10
#121270
$8.49

SONY
2HD
2MB

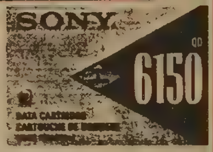
2HD 3.5" DS/HD HI-DENSITY FORMATTED DISKETTES
BOX OF 10
#1551211
$8.99

SONY
FORMATTED
2HD

QD2120 120MB DATA CARTRIDGE
#1650853
$14.99

QD2120 QIC-80 120MB DATA CARTRIDGE
250MB WHEN COMPRESSED
#1884434
$18.99

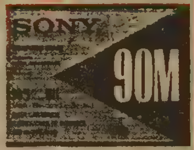
QD6150 150MB 600FT. DATA CARTRIDGE
#1524640
$17.99



QG112M 8MM 2.3 GIGABYTE DATA CARTRIDGE
#1545599
$13.49

DG60M 4MM DATA CARTRIDGE
#1637430
$12.99

DG90M 4MM DATA CARTRIDGE
#1637441
$15.99



Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

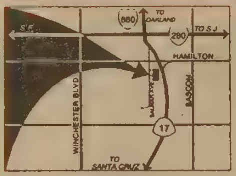
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

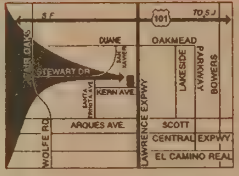
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

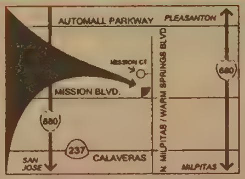
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

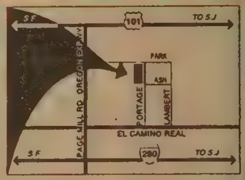
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S F
101
TO S J
FAIR OAKS
STEWART DR
DUANE
SAN XAVIER
OAKMEAD
LAKESIDE
PARKWAY
BOWERS
SANTA TRINITA AVE
KERN AVE
WOLFE RD
ARQUES AVE.
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY.
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD.
N MILPITAS / WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

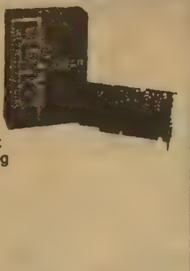
FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
OREGON EXPWY
PAGE MILL RD
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S F
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

MULTIMEDIA

SOUND BLASTER™ 16 BASIC



- 8 and 16-bit stereo sampling/playback from 4-44.1 KHz
- Hardware upgradeable for Advanced Signal Processing
- Real-time, 16-bit software compression and decompression of sound files
- CD-ROM interface for Creative Labs CD-ROM drives
- Bundled Software: Monolouge for Windows and several Creative Labs software utilities
- Windows 3.1, OS/2 and MPC2 compatible

#1532208

$129

CREATIVE
CREATIVE LABS, INC.

PRO AUDIO STUDIO 16

MULTIMEDIA SOUND CARD

- SCSI CD-ROM Interface
- 20 Voice Stereo Synthezer
- Audio Compression and Decompression
- Voice Recognition
- Microphone and Bundled Software Titles

#1783052

$157

MEDIA VISION

PRO MOVIE STUDIO

- Real Time video capture from 160 x 120, 30 fps to 320 x 240, 15fps
- Single frame capture up to 640 x 480
- Real time compression with Microsoft Video 1 compressor
- Full-motion, full-color video
- Comes bundled with exciting Software Titles

#1808423

$189

MEDIA VISION

SOUNDWAVE 32

Advanced Wavetable/DSP 16-Bit Sound Card

- Incredible 16-bit CD Quality Sound
- MPC Level II Compatible
- 20 MIPS 16-bit Digital Signal Processor
- 1 Megabyte of Wavetable Samples
- Includes Speakers, Microphone
- SoundBlaster, Windows Sound System, Roland MT-32, MPU-401, AdLib, and General MIDI Compatible

#1842083

$198

ORCHID

WAVE BLASTER

DAUGHTERBOARD FOR SOUNDBLASTER 16 BOARDS

Wave Blaster is the perfect companion to the Sound Blaster 16 line of 16-bit audio cards offering high performance CD-quality sound. 4MB Recorded Music Instrument Songs • Sound ROM Sampled Wave Synthesis • General MIDI Compatibility MT32 Emulation Mode • 16 Channels and 32 Note Polyphony Instrument Presets, Drum Kits and Sound Effects

#1802483

$179

CREATIVE
CREATIVE LABS, INC.

Reel Magic

Theater Quality Video/CD Quality Audio

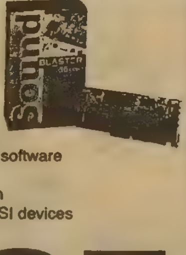
- On-board MPEG (Motion Picture Experts Group) Video and Audio Decompression
- 32K Colors on any mode Up To 1024 x 768
- Plays Feature Films (Video CD) on your PC
- Includes Activision's "Return To Zork"

#1844959

$389

SIGMA DESIGNS

SOUND BLASTER 16 SCSI-2



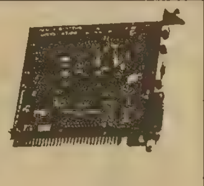
- 8 and 16-bit stereo sampling and playback from 4 to 44.1 kHz
- Includes Creative VoiceAssist speech recognition software
- Expansion connector for Wave Blaster
- Real-time, 16-bit compression and decompression
- SCSI-2 interface lets you connect up to seven SCSI devices
- Windows 3.1, OS/2 2.x and MPC2 compatible

#1844661

$185

CREATIVE
CREATIVE LABS, INC.

Audio Blitz 16-Bit Sound Card



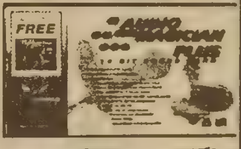
- Yamaha OPL2 Synthesizer
- 16-bit Recording and Playback
- AdLib and Sound Blaster Compatible
- Bundled with Earphones, Microphone and Software

#1871380

$59.99

Genoa
SYSTEMS CORPORATION

CALYPSO AUDIO MAGICIAN PLUS



16-BIT SOUND CARD

SOUND BLASTER & AD-LIB COMPATIBLE

Microphone Jack • Game Port • Audio Recorder • Audio Reminder
Talking Clock
Talking Calculator
Audio Clip Library
Timer and Stopwatch

#1811784

$64.95

AudioWave

The Ultimate Game Pack

16-bit SCSI Stereo Sound Board

- Built-in CD-ROM, Joystick and MIDI Interfaces
- Sound Blaster Compatible

Aircraft-Style Grip Quality Joystick

Magnetically Shielded Speakers

#1851177

$119.99

audioSHOW

The Complete Multimedia Audio, Video and Television Solution

- VGA and 16-bit audio to TV/videotape
- Supports 640 X 480 X 16.7 million color resolution VGA & Super VGA
- S-Video (SVHS) output for high quality video recordings/displays
- Stereo 16-bit ADC/DAC for high-fidelity sound reproduction
- Yamaha OPL3 FM music synthesizer chip for realistic instrument sounds
- MIDI and Joystick ports

#1821570

$349

AITech

TURTLE BEACH SYSTEMS

MULTISOUND

High-Resolution 16-bit Multimedia Sound Card

Wavetable Playback • 32 Simultaneous Voices
Motorola Digital Signal processor
126 Wavetable Instruments

#1726415

$415

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

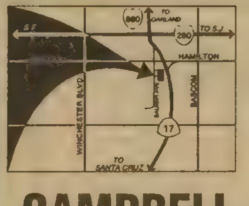
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

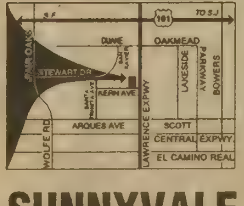
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

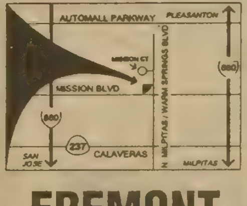
CORPORATE P.O. FAX #'s



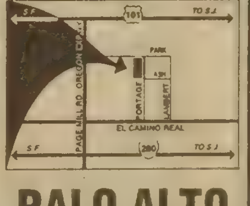
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

MULTIMEDIA

MEMPHIS

INTEGRATED MULTIMEDIA COMPONENT SYSTEM

- 16-bit stereo Recording and Playback (16-bit linear CODEC)
- Sample frequency from 4 to 44.1KHz
- Microphone, external line-in, and CD-ROM audio inputs allow for the highest CD-quality recordings from a variety of sources
- The Memphis is fully 100% compatible with Soundblaster, AdLib, Pro Audio Spectrum 16, MPC 1 & MPC 2, Windows 3.1 and NT, OS2 2.1, NextStep

#1888427

MEDIA VISION

$614*

*After $25 Instant In-store Rebate

PRO 16 MULTIMEDIA SYSTEM II

Pro Audio Studio 16 • Voice Recognition
NEC 84JD1 250ms Double-Speed CD-ROM
Software Included: Compton's Multimedia Encyclopedia • Battle Chess • Mantis • Civilization
Where In The World Is Carmen San Diego?
Mayo Clinic • Quick & Easy To Install
#1888391

MEDIA VISION

$524.99*

*After $25 Instant In-store Rebate

PRO 16 CD III

ULTIMATE TRIPLE SPEED UPGRADE KIT

THE HIGHEST PERFORMANCE MULTIMEDIA KIT

Triple Speed CD-ROM Drive • 450 KBS/S Transfer • 195ms Access
Pro Audi Spectrum 16 • Microphone • Bundled Software • SCSI -CD-ROM Interface
MPC Level I and II Compatiblity
#1888416

MEDIA VISION

$774.95*

*After $25 Instant In-store Rebate

SOUND BLASTER™ 16 DISCOVERY KIT w/INTERNAL CD-ROM

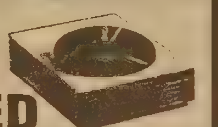
Sound Blaster16 • Creative Labs Internal CD-ROM Drive • Stereo Speakers • Photo CD Compatible
Bundled Software: Software Toolworks' Multimedia Encyclopedia, The Animals!, and Lemmings
MPC 1 and Windows 3.1 Compatible
#1768888

CREATIVE
CREATIVE LABS, INC.

$399

INTERNAL DOUBLE-SPEED CD-ROM DRIVE

WITH ELEVEN CD-ROM TITLES



Internal Panasonic CD-ROM drive, Double, 320ms access time, 320KB data transfer rate. Multi-session Photo CD ready. Includes mounting hardware, cables and installation video. Bundled with Multimedia Encyclopedia, The Animals, Mavis Beacon Teaches Typing, World Atlas, U.S. Atlas, Chessmaster 3000, Macromedia Action, Clip Media, Where In The World Is Carmen San Diego? , LOOM, The Secret Of Monkey Island and Secret Weapons Of The Luftwaffe software.
CDD12 #1853054

$319.99

REVEAL

VOICE BLASTER STAR TREK BUNDLE

"Operate Your Computer at the Speed of Sound."

- Voice Recognition Software for Sound Blaster Compatible Sound Cards
- Star Trek: The Next Generation Auidio Clips, Featuring Sound Effects, Dialog and Cues.

#1867752

COVOX

$79.99

Verbex

Listen™ for Windows™

CONTINUOUS SPEECH RECOGNITION SYSTEM

A Simple Product That Lets Your Computer Understand Everything You Say.

Talk to your PC in a natural continuous way. Get things done faster and more accurately than with a keyboard or a mouse. Listen™ for Windows™ includes speech interfaces to popular programs like Microsoft Office™ Suite,WordPerfect™, Corel Draw™, and Asymetrix Compel™ letting you use the product immediately.
#1850833

$369.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

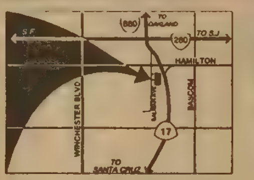
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

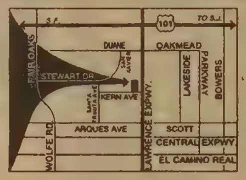
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

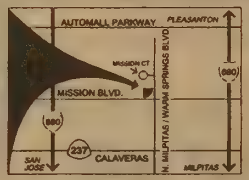
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

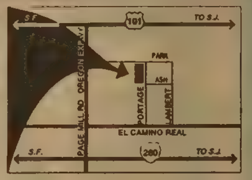
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
FAIR OAKS
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
WOLFE RD
LAWRENCE EXPWY.
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD.
N. MILPITAS / WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
ASH
PAGE MILL RD OREGON EXPWY
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

EASY OPTIONS BY IBM®

Easy OPTIONS™ by IBM®

IBM® and Easy Options are registered trademarks of International Business Machines Corporation.™

JOYSTICK

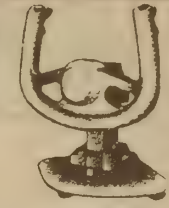
- Dual Fire Buttons
- Stick Mounted Firing
- Auto Centering

$17.99

Easy OPTIONS™ by IBM®

JOY575
#1779365

FLIGHT YOKE



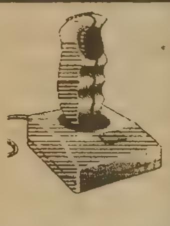
- Thumb and Finger Fire Buttons
- Locking Post Pin For Driving Simulators

$49.99

Easy OPTIONS™ by IBM®

JOY576
#1779376

FLIGHT CONTROLLER



Aircraft Syle Pistol Grip
Stick Mounted Firing
Auto Fire Button
Pin For Driving Simulators

$26.99

Easy OPTIONS™ by IBM®

JOY577
#1779387

UNINTERRUPTABLE BACK-UP POWER SUPPLY

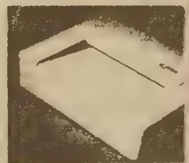
250 VA • UL Listed
Replaceable 3-5 year Battery
EMI/RFI noise filtration
Audible Alarm • One Touch Power
2 outlets • Surge Supression

$99.99

Easy OPTIONS™ by IBM®

IBM P600
#1779262

TRUE COLOR SCANNER



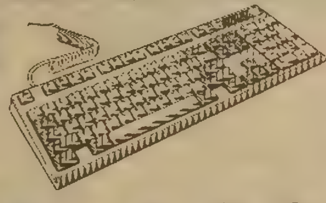
- True Color (16 Million)
- 8.5" Scan Width
- 600 dpi Resolution
- 2.5ms/line Scanning Speed
- Image Software Included

$499

Easy OPTIONS™ by IBM®

SC591
#1880876

101-KEY KEYBOARD



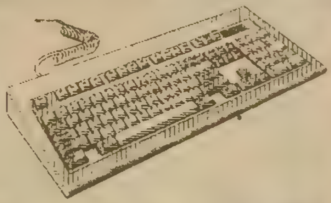
- IBM PS/1, PS/2, 286 AT And Compatibles
- 12 Function Keys
- Audible And Tactile Feedback
- Includes 6-Pin To 5-Pin Adapter
- 1-Year Warranty
- IBM 30-Day Money Back Guarantee

$69.99

Easy OPTIONS™ by IBM®

KB570
#1779343

PROFESSIONAL 101-KEY KEYBOARD



- IBM PS/1, PS/2 And Compatible
- Curved Profile, User Adjustable Angle
- Positive Tactile Feedback
- Includes 6-Pin To 5-Pin Adapter
- 1-Year Warranty
- IBM 30-Day Money Back Guarantee

$99.99

Easy OPTIONS™ by IBM®

KB571
#1779354

TRACKBALL

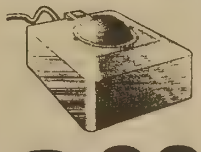
- Interchangeable Left and Right Buttons
- Microsoft Compatible
- 50 to 1,600 dpi Resolution

$39.99

Easy OPTIONS™ by IBM®

TR576
#1779295

MINI TRACKBALL



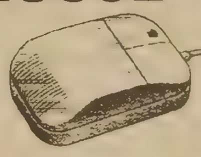
- Laptop Size
- Interchangeable Left and Right Buttons
- Microsoft Compatible
- 50 to 1,600 dpi Resolution

$39.99

Easy OPTIONS™ by IBM®

TR577
#1779309

2 BUTTON MOUSE



- 2 Buttons
- 400 dpi
- Microsoft and Mouse Systems Compatible

$24.99

Easy OPTIONS™ by IBM®

MIC580
#1779310

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

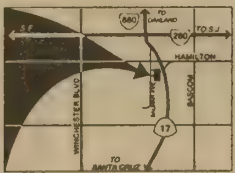
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

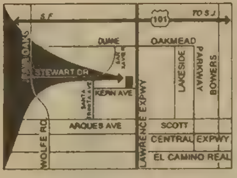
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

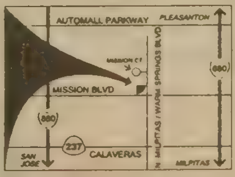
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

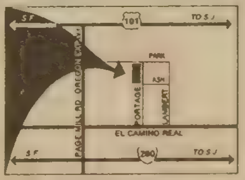
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
SANTA TRINITA AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
WOLFE RD
LAWRENCE EXPWY
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
880
680
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PAGE MILL RD OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

YOUR BEST SOFTWARE BUYS ARE ALWAYS AT FRY'S

Microsoft Excel 5.0 Upgrade For Windows

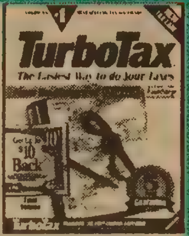
Special Upgrade Edition for users of Microsoft Excel for Windows, version 4.0 and earlier.

$98.95

IBM
#1860283

TurboTax

1040 1993 WINDOWS FINAL EDITION


TurboTax
The Easiest Way to do Your Taxes

Discover the New EasyStep™ System.
Turbo Tax gives you complete control over completing your tax return. It handles all the boring, difficult complications and makes sure they're done right. On-line tax help will explain IRS rules for you.

Intuit

$39.95

WINDOWS
#1763665

INTEL PROSHARE

Intel ProShare
intel

Personal Conferencing Software
Share ideas simultaneously one-on-one from your PC. Connect via modem or LAN to view and edit the same screen while you talk on the phone. You get all the immediate feedback you need to communicate clearly and decisively. Includes on-screen tools for pointing, highlighting, drawing and adding text.

intel

$79.95

IBM
#1881475

Microsoft MS-DOS 6.2 Upgrade

The MS-DOS 6.2 Upgrade is the easy way to double your hard disk. And now it offers new data-protection technology such as DoubleGuard and ScanDisk to safeguard your data! The MS-DOS 6.2 Upgrade also frees up more memory for your MS-DOS based applications. What's more, integration of MS-DOS 6.2 with the Microsoft Windows operating system means it's a must-have for users of Windows!

$49.95

IBM
#1853065

OS/2 2.1 FOR WINDOWS

OS/2
for Windows

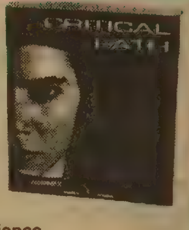
Take Windows to a higher level
Os/2 for Windows brings a new level of power and performance to your PC.
OS/2 for Windows can exploit your hardware in ways it simply couldn't before. It enhances it. Your Windows desktop can look and work the same. Or you can start to explore the object orientred world of the OS/2 workspace Shell and discover how easy and fun true "drag and drop" computing can be. The choice is yours!

IBM

$49.95

IBM
#1862872

CRITICAL PATH


CRITICAL PATH

Critical Path is a new level of CD-ROM realism and excitement, 3D Motion video, explosive sound effects and music soundtrack. It's a gritty, realistic cinematic experience.

MEDIA VISION

$49.95

IBM CD
#1857265

Borland Office 2.0 for Windows Special Upgrade

Special Upgrade
NEW!
Borland
Office
for Windows

Simplify your work and boost productivity with WordPerfect, Quatro Pro and Paradox. Individually, they've won more awards than any other software in there class. Together, they make your job easier by helping you integrate all your tasks. For owners of any DOS or Windows version(s) of WordPerfect, Quatro Pro, or Paradox.

BORLAND

$239

IBM
#1872831

Microsoft ENCARTA 1994

1994
Microsoft
ENCARTA

Microsoft Encarta 1994 Edition continues to set the standard for multimedia encyclopedias with thousands of up-to-date articles and more high resolution graphics, enlightening animations, stunning clips and resonant digital sounds than ever. It harnesses the power of the personal computer to inspire curiosity, open the door to wonder, and take a learning journey that never ends!

$89.99

IBM
#1856884

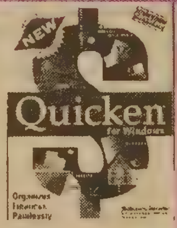
PLANIX HOME DESIGN

Planix Home Design is an easy to use tool for all aspects of home interior and landscape design. You can quickly create an accurate drawing of your house and landscaping. Assign data to components in the drawing and generate reports.

$49.95

IBM
#1866441

Quicken 3.0 for Windows


NEW
Quicken
for Windows

Quicken 3.0 will help you organize your personal and small business finances quickly and correctly. New Quicken comes with:

- Better Reporting
- Easier and flexible Investment Tracking
- Financial Planning Tools
- Register Enhancements

and much, much more!

Intuit

$39.95

IBM
#1828337

THE DISNEY COLLECTION SCREEN SAVER FOR WINDOWS

SCREEN SAVER

The Disney Collection Screen Saver will take you to the magical world of Disney with your favorite characters. Includes five classic Disney songs. Features over 15 colorful animated Disney displays. Classic Disney voices and sounds. Runs all After Dark 2.0 displays and more.

BERKELEY SYSTEMS

$29.95

IBM
#1819874

Borland C++ 4.0 for DOS, Windows, and Windows NT Special Upgrade

Special Upgrade for owners of Borland C++, Turbo C++, or Microsoft and Symantec C or,C++ products.

- C and C++ made easy
- Rapid application development
- Most comprehensive tools
- Most advanced compiler

$198.95

IBM
#1866360

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

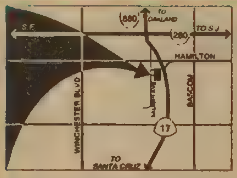
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

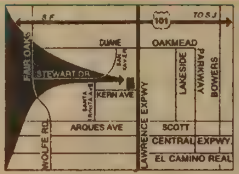
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

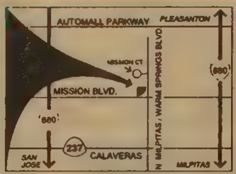
CORPORATE P.O. FAX #'s


880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

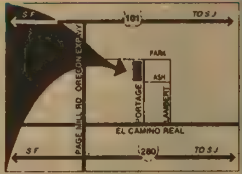
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3790


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR.
KERN AVE
LAKESIDE
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
ARQUES AVE
EL CAMINO REAL
BOWERS

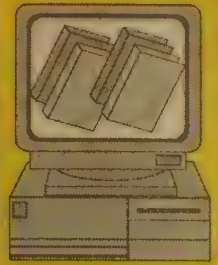
SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT.
MISSION BLVD.
880
680
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
ASH
PORTAGE
EL CAMINO REAL
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044



COMPUTER BOOKS

MACINTOSH

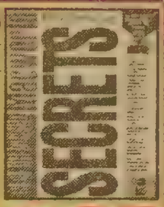
THE MAC INTERNET TOUR GUIDE

With Companion Disk

How to get connected, information resources,file transfer software, decompression software, E-Mail software, and more!

$24⁴⁹

#1815054



MACWORLD MACINTOSH SECRETS

WITH DISK

This book whirls you through tricks and secrets you never thought possible. Whether you're a computer junkie or a neophyte, you'll amaze your friends and bewilder your enemies with your new found knowledge.

#1848104

$34⁹⁵

Pagemaker 5 By Example	#1848230	$25⁹⁵
Mac Bible 4th Edition	#1753732	$27⁹⁵
Mac Bible Guide To Excel 4	#1783878	$12⁹⁵
Learn C++ On The Mac	#1809136	$32⁴⁹

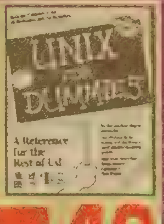
OPERATING SYSTEM

PETER NORTON'S DOS 6 GUIDE

With Peter Norton's DOS 6 Guide, you'll learn all about DOS essentials: what works and what doesn't, what to buy and what to use, plus Peter's personal tips and techniques for getting the most out of DOS and your PC.

#1778319

$21⁴⁹



UNIX FOR DUMMIES

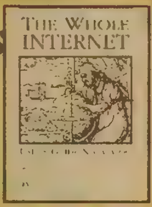
UNIX may be technical and non-intuitive, but you don't have to be a tech-head to use it effectively.

$17⁴⁹

#1803015

DOS Commands For Dummies	#1822571	$7⁹⁵
Easy Windows 3.1	#1712027	$14⁹⁵
DOS For Dummies 2nd Edition	#1851649	$14⁹⁵
Inside Windows Networking	#1753617	$21⁴⁹

COMMUNICATION NETWORKING



THE WHOLE INTERNET USERS GUIDE & CATALOG

This book will help you to unlock Internet's resources. It is a complete user's guide to the Internet, covering everything from the basics like electronic mail and newsgroups to the newest developments. A large part of the book tells you how to find the resources you want. This is the first book to cover the Internet's new "research librarians." Gopher WAIS and the World wide Web. There are important new tools that help you search the Net's resources by topic

$19⁹⁵

#1745694

THE INTERNET COMPANION

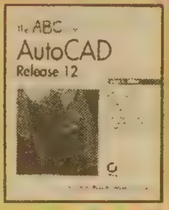
Welcome to Internet, the global web of computer networks reaching millions of people all over the world. From the mundane to the technical, the numorous to the scientific, the Internet is an open door to the latest information on medicine, environmentalism, sports, politics, social issues, education and much more.

$11⁴⁹

#1763023

Using Novell Netware 2nd Edition	#1680852	$25⁹⁹
Welcome To Internet	#1883433	$17⁴⁹
Internet For Dummies	#1876983	$17⁴⁹
Troubleshooting Netware	#1729924	$30⁴⁹

GRAPHICS



ABC's of AutoCAD RELEASE 12

The ABC's of AutoCAD Release 12 is a hands-on introduction to computer-aided design and drafting, featuring Auto-CAD's easy-to-use new release- both for IBMPCs and compatibles, and for SUN and other UNIX -based computer systems.

$19⁹⁵

#1745225

Corel DRAW! 4 Made Easy

3rd Edition

Inside, you'll find crystal-clear, step-by-step instructions to guide you at an easy pace through the latest release of Corel's popular graphics program for IBM PCs and compatibles.

$24⁴⁹

#1819324

Mastering AutoCad	#1740828	$30⁴⁹
Inside DesignCad	#1797853	$25⁹⁵
Looking Good With Corel	#1835522	$24⁴⁹
Mastering Corel Draw	#1745443	$33⁴⁹

WORD PROCESSING

WORD PERFECT 6.0 FOR DUMMIES

FREE WordPerfect 6 Function Key Reference Inside

The fun and easy way to learn WordPerfect 6.

$14⁹⁵

#1803152

TEACH YOURSELF WORD PERFECT 6

The most effective way to learn a powerful word processing program like WordPerfect is with a friendly, step-by-step approach - ideally, one that lets you learn at your own pace.

#1803004

$21⁴⁹

Using Word For Windows	#1848447	$25⁹⁵
Word For Windows For Dummies	#1809354	$14⁹⁵
Using Wordperfect 6.0	#1803060	$25⁹⁵
Word Perfect 6 Made Easy	#1803129	$21⁹⁵

LANGUAGES

C FOR WINDOWS ANIMATION PROGRAMMING

Packed with here-is-how-it's done program listings - nearly 800k of ready-to-use source code on the enclosed disk - C for Windows Animation Programming can help you master the PC graphics skills you need to create professional-quality animation on your personal computer.

#1783650

$34⁹⁵

TEACH YOURSELF VISUAL C++ IN 21 DAYS

If you're a student, hobbyist, professional, or a consultant who knows how to use Windows but wants to learn to develop Windows applications -- you can Teach Yourself Visual C++ in 21 Days.

#1852282

$21⁴⁹

Turbo C++ Self Teaching	#1847055	$19⁹⁵
Visual Basic For Windows	#1835500	$34⁹⁵
C Step By Step	#1449053	$25⁹⁵
Peter Norton's Visual	#1829394	$34⁹⁵

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

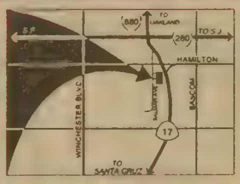
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For Typographical Errors

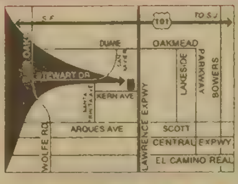
HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

VISA AND MASTERCARD ACCEPTED

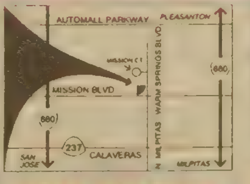
CORPORATE P.O. FAX #'s



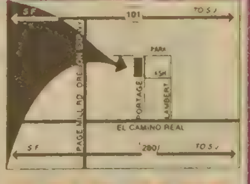
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

JOYSTICKS AND KEYBOARDS

SPILL-RESISTANT
101-KEY KEYBOARD

$14.99

#1888254

SUNTOUCH
101-KEY KEYBOARD

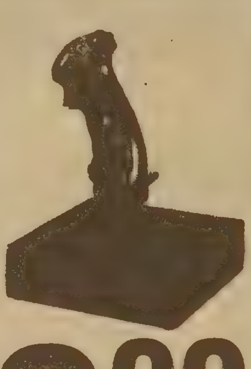
"CLICK" KEYBOARD FEATURING ALPS KEY SWITCHES

SIIG, Inc.

$59.99

SIIG
#1810750

THRUSTMASTER FLIGHT CONTROL SYSTEM

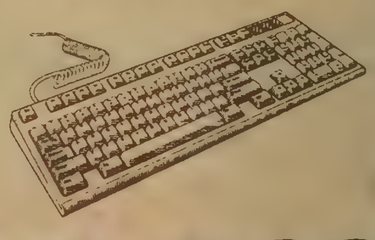


Replica of the F-4 flightstick
Multi-function
IBM Compatible

$79.99

#1852581

IBM® BASIC 101-KEY KEYBOARD



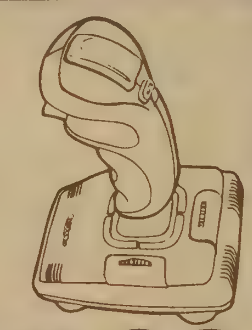
- IBM PS/1, PS/2, 286 AT And Compatibles
- 12 Function Keys
- Audible And Tractable Feedback
- Includes 6-Pin To 5-Pin Adapter
- 1-Year Warranty
- IBM 30-Day Money Back Guarantee

Easy OPTIONS™ by IBM®

$69.99

Model KB570
#1779343

QuickShot® by Bondwell
JOYSTICK FOR IBM PC/XT/AT AND APPLE IIe/c

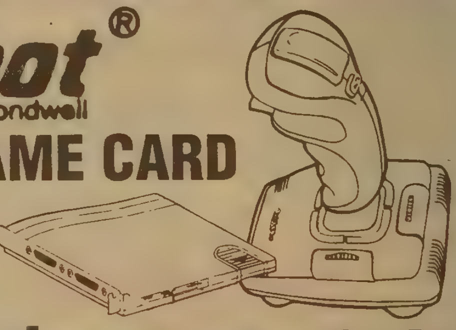


Bio-Grip • Auto Fire
Ergonomic Design
2 Fire Buttons
IBM and Apple Connectors

$16.99

QS-133
#1545533

QuickShot® by Bondwell
JOYSTICK w/GAME CARD FOR IBM AND COMPATIBLES



Adapter • Bio-Grip • Auto Fire
Ergonomic Design • 2 Fire Buttons

$19.99

QS-120/123A
#1545463

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

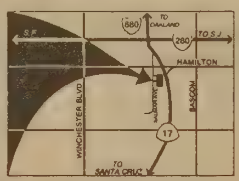
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

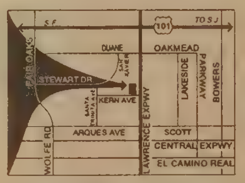
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

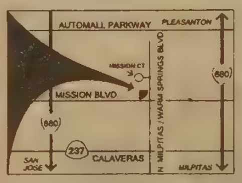
CORPORATE P.O. FAX #'s


S.F.
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

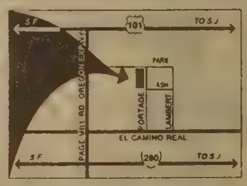
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S J
DUANE
OAKMEAD
FAIR OAKS
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
WOLFE RD
ARQUES AVE
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
880
N. MILPITAS / WARM SPRINGS BLVD
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700


S F
101
TO S J
PAGE MILL RD OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S F
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

AVOID SYSTEM MELTDOWN AND DATA DISASTER!

WABER, INC.
A Subsidiary of SL Industries, Inc.

DG6PSEM WALL MOUNTING

DG6PSEM WALL MOUNTING 210 JOULE SURGE PROTECTOR, FAX/MODEM, 6 OUTLET SIDE ENTRY RECEPTACLES.
#1840922

$22.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

UPS250 UL 1778

UPS250 UL 1778 250 VOLT/AMP UPS.
USER REPLACEABLE BATTERIES.
2 UPS/4 SURGE
#1840933

$129.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

UPS500 UL 1778

UPS500 UL 1778 500 VOLT/AMP UPS.
USER REPLACEABLE BATTERIES.
4 UPS/SURGE PLUGS 2 SURGE
#1840944

$229.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

DS6 6 OUTLET

DS6, 6 OUTLET
3 PHASE SURGE PROTECTION WITH NOISE FILTRATION.
#1754652

$54.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

AVOID SYSTEM MELTDOWN

7-OUTLET 330V SURGE PROTECTOR

INCLUDES MODEM PROTECTION
AND SITE FAULT WIRING INDICATOR
DG7SAM #1754663

$26.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

AVOID SYSTEM MELTDOWN

6 OUTLET SURGE PROTECTOR

PM6SP2 • 140 Joules
Noise Filtering • Five Year Warranty
#1840885

$6.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

EP6S METAL SURGE

EP6S 210 JOULE
6 OUTLET SURGE PROTECTOR
EMI/RFI NOISE REJECTION
5 YEAR WARRANTY $250 CNCT EQP
#1840900

$12.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

FULL METAL JACKET 6 OUTLET SURGE PROTECTOR

Case of drawn steel with baked enamel.
210 joules energy dissipation. Clamping response time < 1nanosecond
Maximum surge voltage 6000V
6 foot cord DG206 #135495

$16.99

WABER, INC.
A Subsidiary of SL Industries, Inc.

DSD SURGE 4-OUTLET

PROTECT YOUR COMPUTER EQUIPMENT FROM VOLTAGE SURGES, BROWNOUTS, BLACKOUTS, AND EMI/RFI NOISE INTERFERENCE.
• 695 JOULES RATED • 1PICOSECOND RESPONSE TIME • VISUAL SURGE INDICATOR AND 15 AMP RESETTABLE CIRCUIT BREAKER.
#1473366

$79.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

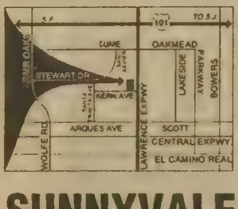
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

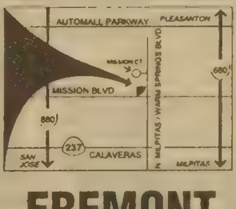
CORPORATE P.O. FAX #'s

880
TO OAKLAND
280
TO S.J.
HAMILTON
WINCHESTER BLVD
BASCOM
17
TO SANTA CRUZ

CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
LAWRENCE EXPWY
WOLFE RD
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
MISSION BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

S.F.
101
TO S.J.
PARK
ASH
PORTAGE
EL CAMINO REAL
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

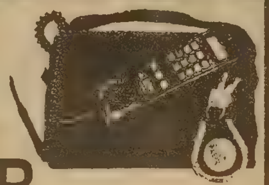
Authorized Sales Representative

GTE Mobilnet

Get Mobilized℠

GET MOBILIZED AT FRY'S ELECTRONICS

MOTOROLA



CELLULAR TRAVELER PHONE

Motorola's traveler phone combines a compact design with a full 3 watts of power at the incredibly low price of only...

$\$139^{95}*$

*After $25 Instant Service Activation Rebate. Price w/o Activation $164.95

Model S-3230
#1751866

MOTOROLA

TRANSPORTABLE HANDHELD CELLULAR TELEPHONE

Motorola's popular Hand Held Phone has all the right features! This compact unit will allow you to talk for up to 90 minutes, keep 30 numbers in memory, and much more!

$\$179^{95}*$

*After $25 Instant Service Activation Rebate. Price w/o Activation $204.95

Model 8000-HX
#1502549

MOTOROLA

CELLULAR FLIP PHONE

This premium value cellular phone from Motorola comes equipped with 30 number memory, LED display, call timer, signal strength meter, a battery with 75 minute total talk time, and an overnight charger for only...

$\$239^{95}*$

*After $25 Instant Service Activation Rebate. Price w/o Activation $264.95

Model DPC-550
#1635999

MOTOROLA

ALPHA MICRO-TAC CELLULAR PHONE

If it's small and lightweight you're looking for, this is the cellular phone for you! With its 101 alpha numeric memory, a desktop charger, and standard battery, this technologicaly advanced cellular phone can be yours for only...

$\$358^{95}*$

Model DPCAC
#1635988

*After $25 Instant Service Activation Rebate. Price w/o Activation $383.95

MOTOROLA

MICRO TAC LITE CELLULAR PHONE

Weighing in at 7.7 ounces and measuring 11.6 cubic inches, this is one of the lightest and most advanced cellular telephones available. With 100 alpha numeric memory, retractable antenna, standard battery, and desktop charger, you can receive state of the art performance and design for only...

$\$464^{95}*$

Model MICRO TAC LITE BASE
#1750739

*After $25 Instant Service Activation Rebate. Price w/o Activation $489.95

MOTOROLA

MICRO TAC ULTRA LITE CELLULAR PHONE
WITH VIBRA CALL

Motorola's lightweight champion of cellular phones tips the scales at only 5.9 ounces and contains a unique ring selector that includes a setting for vibrate, just like a pager! Other features include 101 alphanumeric memory, memory scroll, recall, two batteries, rapid charger, carry case, and more for only ....

$\$699^{99}*$

Model Micro Tac Ultra Lite
#1794986

*After $25 Instant Service Activation Rebate. Price w/o Activation $724.99

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

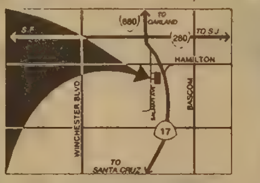
Prices Good Through March 29, 1994

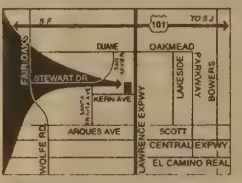
Limit Rights Reserved
Not Responsible For
Typographical Errors

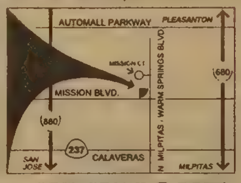
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

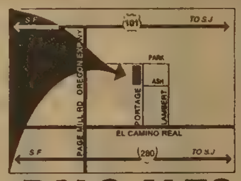
VISA AND MASTERCARD ACCEPTED

Service Activation Not Required. No Sales To Dealers Or Resellers. Limit One Per Family.


S.F.
880
TO OAKLAND
280
TO S J
HAMILTON
WINCHESTER BLVD
SALMAR AVE
BASCOM
17
TO SANTA CRUZ


S F
101
TO S J
FAIR OAKS
DUANE
OAKMEAD
SAN GAVEN
STEWART DR
SANTA TRINITA AVE
KERN AVE
LAWRENCE EXPWY
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
WOLFE RD
EL CAMINO REAL


AUTOMALL PARKWAY
PLEASANTON
MISSION CT
SPRINGS BLVD
680
MISSION BLVD.
880
N MILPITAS - WARM SPRINGS BLVD
237
CALAVERAS
SAN JOSE
MILPITAS


S F
101
TO S J
PAGE MILL RD
OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S F
280
TO S J

CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

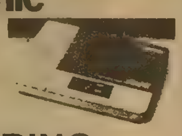
PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX #'s

YOUR BEST PANASONIC HOME OFFICE BUYS ARE ALWAYS AT FRY'S !

ANSWERING MACHINES

Panasonic



ANSWERING MACHINE

Answering system with Auto-Logic Operation, Tone Remote Control, Digital Display, Message Memo Recording and Remote turn on, Auto-Logic Operation Automatically Rewinds, Plays Messages, Stops at the Last Message and Resets itself at the Touch of One Button.

$39.99

Model!
KX-T1000
#1498194

Panasonic

DUAL MICRO CASSETTE ANSWERING SYSTEM

Panasonic's new dual micro cassette answering system offers an LCD Call Counter, marker message, room monitor, auto disconnect, electronic auto disconnect, electronic volume control, audible message alert, and much more for only...

$69.95

MODEL
KX-T2100
#1740208

Panasonic

DUAL MICRO CASSETTE ANSWERING SYSTEM

W/ VOICE TIME/DAY STAMP

Panasonic's new dual micro cassette answering system offers an LCD Call Counter, marker message, room monitor, auto disconnect, electronic auto disconnect, electronic volume control, audible message alert, and much more for only...

$89.95

MODEL
KX-T2300
#1740219

MULTI-LINE BUSINESS PHONES

Panasonic

TWO LINE PHONE

A two line phone doesn't have to cost a fortune. Panasonic has the low cost answer for you. This unit has a convenient auto dialer, conference calling and much more!

$69.95

MODEL
KX-T3110
#1505313

Panasonic

2-LINE SPEAKERPHONE W/ LCD DISPLAY

From Panasonic comes this fully featured 2-line speakerphone with LCD display, 3-way conference call, volume control for speaker and handset, 24-station one-touch dialer, auto redial, flash, separate ringer tone, line status indicator, memo dial, and save redial, all for only...

$89.95

MODEL
KX-T3175
#1745122

AVAILABLE IN BLACK OR WHITE

Panasonic

3-LINE SPEAKERPHONE WITH LCD DISPLAY

From Panasonic comes this fully featured 3-line speakerphone with LCD display, 3-way conference call, volume control for speaker and handset, 48-station one-touch dialer, auto redial, flash, separate ringer tone, line status indicator, memo dial, and save redial, all for only...

$169.99

MODEL
KX-T3185
#1768039

AVAILABLE IN BLACK OR WHITE

10 CHANNEL CORDLESS PHONES

Panasonic

10 CHANNEL AUTOSCAN CORDLESS PHONE

Panasonic s newest cordless phone comes equipped with a retractable flexible rubber antenna, sound charger technology, which helps filter out background noise resulting in enhanced sound quality, and 1-way paging between the base and handset. An excellent value at only

$79.95

MODEL
KX-T3850
#1764839

Panasonic

10 CHANNEL CORDLESS PHONE

W/ QUICK CHARGE & SECURE GUARD SYSTEM

Panasonic has developed the latest in cordless technology by incorporating a Quick Charge system that will enable you to recharge its battery in one hour providing 7-day standby or 3 hours providing 21-day standby! The Secure guard system can help keep your conversations private and help prevent eavesdropping scanners or baby monitors. Other features include one paging, 10 number memory, last number redial, flash, auto security code settings and much more for only...

$118.95

MODEL
KX-T 3940
#1820915

AVAILABLE IN BLACK - OR WHITE

Panasonic

THE WORLD'S BEST CORDLESS TELEPHONE PANASONIC 900MHz

It's simply Incredible! Take this phone down the street to your neighbors for a barbeque and you will think you were calling from your own backyard! But that's not all! It's also the ultimate cordless phone for small businesses that can't afford to have anything interfere with an important call! Besides the advantages of mobility and clarity, this model has an impressive list of features including, intercom with 2-way paging, 30 channel auto scanning, auto speed dialer, private digital security and much much more! Now only...

$299

MODEL
KX-T9020
#1855399

10 CHANNEL SPEAKERPHONES

Panasonic

10 CHANNEL CORDLESS SPEAKERPHONE

WITH LCD DISPLAY

The LCD on the handset shows the channel number dialed, out-of-range-alert, call duration and more! There's also 10-channel remote change with autoscanning which automatically scans for a clear channel while in the standby mode or in the base unit! Now only...

ORIGINALLY $149.95

$99.95

MODEL
KX-T3860
#1828496

AVAILABLE IN BLACK OR WHITE

Panasonic

10 CHANNEL CORDLESS SPEAKERPHONE

w/ANSWERING MACHINE

This cordless answering system with sound charger technology delivers sound so clear, you will hardly believe your ears! Some of the features included are, 2- way paging, intercom, auto security system, message alert, 2-way and memo recording just to name a few. Now only...

$149.95

MODEL
KX-T 4330
#1796483

AVAILABLE IN BLACK OR WHITE

Panasonic

TWO LINE 10 CHANNEL CORDLESS PHONE

WITH SPEAKERPHONE

The KX-T3980 is one of the most versital phones Panasonic has ever developed! When you combine the convenience of a cordless phone with the flexibility of a 2-line capability along with speakerphone, 3-way conference, 2-way page, and auto intercom, it all adds up to a value too good to pass up!

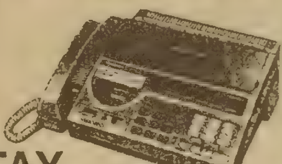
$179.95

MODEL
KX-T3980
#1671595

AVAILABLE IN BLACK OR WHITE

FAX MACHINES

Panasonic



FAX MACHINE

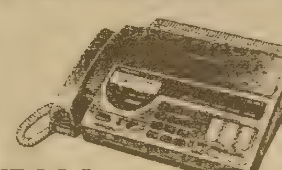
WITH ANSWERING MACHINE AND ANTI-CURL

This fully featured Fax from Panasonic comes equipped with an auto-logic answering system and anti-curl, as well as copier capabilities. It's the perfect secretary for your home or business!

MODEL
KX-F180
#1877490

$399

Panasonic



FAX MACHINE

WITH PAPER CUTTER AND ANTI-CURL

This fully featured Fax from Panasonic comes equipped with an auto-logic answering system and auto paper cutter, as well as copier capabilities. It's the perfect secretary for your home or business!

MODEL
KX-F280
#1886159

$469

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

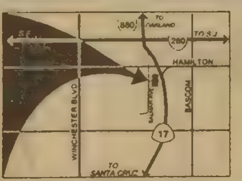
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

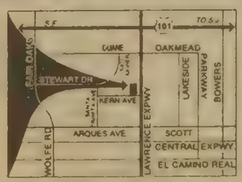
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

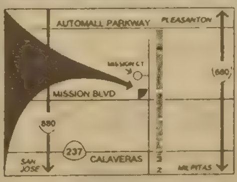
CORPORATE P.O. FAX #'s



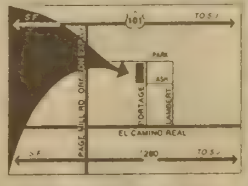
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



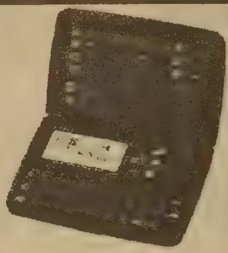
FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

GET ORGANIZED AT FRY'S ELECTRONICS

CASIO



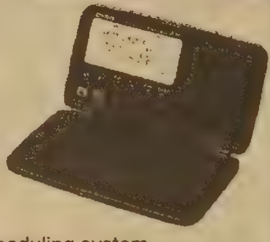
CASIO

32KB DATA BANK

Perfect for the business person on the go, this compact data bank incorporates a 16 x 4 line display with a daily alarm, schedule alarm, calendar display, memo function, 6 currency conversion memories, and a clock with world time function (29 different time zones including 27 cities) all for only...

$\$39^{99}$

MODEL SF-A10
#1728462



CASIO

B.O.S.S. WITH 64KB MEMORY

This business organizer scheduling system comes packed with powerful functions that are practical and easy to use. The QWERTY Keyboard, telephone directory, calendar, memo function, schedule alarm, world time function, home time function, and schedule keeper will prove to be an invaluable tool in keeping your busy days in order.
An excellent investment at...

$\$79^{95}$

MODEL SF-5300
#1671137

CASIO

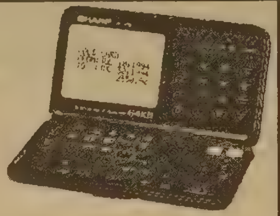
64K ORGANIZER W/BUILT IN SPREADSHEET

Designed for the person on the go! This executive B.O.S.S features a built-in lucid 3-D spreadsheet program that accepts Lotus 1-2-3 files plus an **extra 64k** for your spreadsheet files with a business card library that stores 384 characters per entry, which is enough room to record name, title, company, address, phone number, fax number, and more. Its telephone directory, schedule keeper with alarms, calendar, and PC link capability make this Casio Organizer perfect for anyone with a busy schedule at just...

$\$149^{95}$

MODEL SF-8500
#1858370

SHARP



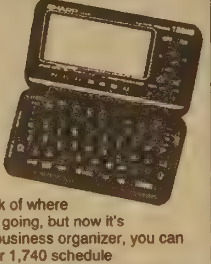
SHARP.

32K ELECTRONIC ORGANIZER

The Sharp YO-300 is a pocket sized, personal information and time management tool that allows you to link it to a PC (with optional acc.). Keep a log of all upcoming projects and sort your list by priority. Track your business and personal expenses and summarize them by day or between days. It also stores birthdays, anniversaries and holiday and provides advance warning for these important events. Stores 1,680 names and numbers or 1,040 schedule appointments.(32K) all for the low price of...

$\$69^{99}$

MODEL YO-300
#1804027



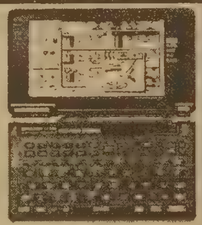
SHARP.

128KB BUSINESS ORGANIZER w/WIDE SCREEN DISPLAY

In today's world, it's sometimes hard to keep track of where you've been, who you've seen, and where you're going, but now it's as easy as saying "S.H.A.R.P!" With this deluxe business organizer, you can store approximately 2,470 names and numbers or 1,740 schedule appointments (128K), but that's just the beginning, the unit's internal memory can be allocated between 10 major built-in functions: An integrated schedule and to-do list with 3 different calendar views, 3 phone/address books, business card file, memo pad, outliner, home and world time clocks, and a calculator. You can send/receive electronic mail using built-in terminal emulation software and an optional PC modem, as well as, exchange data with your PC or Mac using an optional PC interface software and cable package. A must for any business person on-the-go at only...

$\$189^{95}$

MODEL YO-610
#1753444



SHARP.

512K PERSONAL ORGANIZER w/TOUCH SCREEN TECHNOLOGY

This Sharp Wizard lets you leave your portable computer at home but puts the power of that computer in your pocket! Here's a small sampling of the innovative features. Touch screen technology which allows you to write or draw on the screen using the Wizard pen, filer which organizes related data into folders that can be transferred to another touch screen Wizard via infared, and a true word processer with a large screen display and a keyboard that's 75% the size of a standard PC keyboard. The possibilities are endless at only...

$\$449^{99}$

MODEL OZ-9600 II
#1797152

PALMTOPS

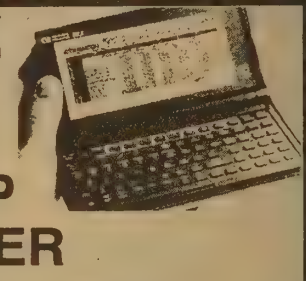
PSION SERIES 3

POCKET SIZED 256KB COMPUTER W/ BUILT-IN SPREADSHEETS

Psion has redefined the state of the art in hand held computers with the new Series 3. It may be small, but this pocket-sized programmable computer comes equipped with features found in desktop machines plus powerful built-in software, including a full specification word processor and outliner that's compatible with Microsoft word. When using the Series 3 you will quickly learn from the system of graphic displays and option list how easy the Series 3 is to use. And with Psion's unique Multitasking Operating System, as many of the facilities as you want can be used at the same time! Other features include an automatic phone dialer, world information, a time and personal management file, powerful graphics programming language (OPL/w) which will enable you to write your own applications and two expansion ports for plug in SSD devices for unlimited memory and software.

$299

MODEL SERIES 3
#1763861



HEWLETT PACKARD
Authorized Dealer

512K PALMTOP COMPUTER

This amazing palm top computer has Lotus 1-2-3, Word Processor, Data Base, Appointment Scheduler and 512KMB memory. Truly an incredible product, supply is limited. Get yours now for only...

$\$399^{99}$

MODEL HP-95LX
#1584442

HEWLETT PACKARD
Authorized Dealer

1MB PALMTOP COMPUTER w/80 x 25 FULL SCREEN MS-DOS 5.0

The smallest, lightest HP PC ever comes equipped with complete organizer software to manage your time, tasks and data, plus you can retrieve information instantly with a full range of built-in personal productivity tools. The pull-down menus and dialogue boxes make it simple to master the familiar commands, and the high-resolution display with zoom option is easy to read ! With Lotus 1-2-3 built-in you will have full spreadsheet capability, including graphics and macros. Also includes CC:Mail built-in. Now only...

$\$499^{99}$

MODEL HP-100LX
#1788150

Home of Fast, Friendly, Courteous Service

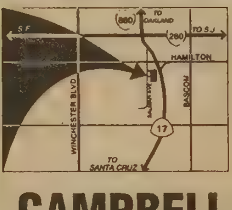
ELECTRONICS Fry's

Prices Good Through March 29, 1994

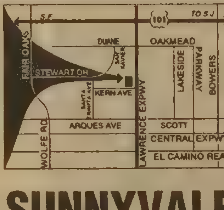
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS :
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

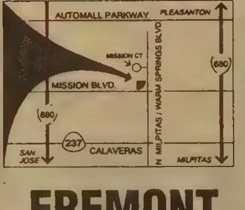
VISA
VISA AND MASTERCARD ACCEPTED
MasterCard



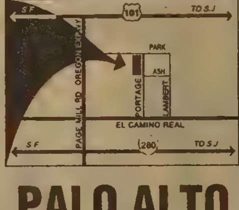
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX #'s

THE BEST HOME OFFICE SELECTION IN NORTHERN CALIFORNIA!

ALL DIGITAL ANSWERING MACHINES

AT&T

ALL DIGITAL ANSWERING MACHINE

This AT&T answering system utilizes tapeless digital technology to ensure consistent recording quality over the life of the system. The convenience of new message playback, outgoing message bypass, remote system turn on or off and remote message recording makes this an excellent value at only...

$69.95

MODEL 1710
#1853906

AT&T

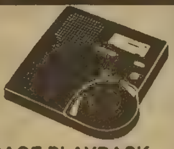
ALL DIGITAL ANSWERING MACHINE w/26 MINUTE CAPACITY

AT&T has broken new ground in Telecommunication Technology with a fully digital answering machine with 26 minute capacity! One touch of the instant forward or repeat button allows you to hear the next or previous message almost instantly, no more waiting for the tape to fast forward or rewind! Other features include time/day stamp, voice prompts, priority calling, memo, 2-way recording, 3 outgoing announcements, cue and review, and LCD display. Now only...

$118.95

MODEL 1343
#1771666

SONY.



ALL DIGITAL ANSWERING MACHINE W/ VARIABLE SPEED MESSAGE PLAYBACK

Sony has taken digital technology to a new dimension with this beautifully-designed, all digital answering system The variable-speed message playback controller allows you to speed up (to 1.6 times speed) or slow down (to 0.7 speed) playback of messages without changing pitch. In addition, you can skip, repeat or backspace messages. The multi-function LCD display functions as a digital message counter, clock, call timer, answer mode indicator, and back-up battery strength indicator, while the voice time/day stamp automatically records the time of the message receipt after each message Other features include: Voice-guided operation, Pre-recorded greeting, Announce-only mode, Memory usage guage, Audible message alert, Remote on/off, Auto interrupt, Memo recording, 2-way conversation recording, and Adjustable ring delay. An invaluable addition to any home or office at only...

$129.95

MODEL
TAM-1000
#1803901

AT&T

ALL DIGITAL ANSWERING SYSTEM SPEAKERPHONE w/4 VOICE MAILBOXES • 26 MINUTE TOTAL CAPACITY

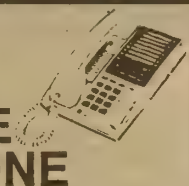
AT&T's Tapeless digital technology ensures instant access and consistent recording quality The individual voice mailbox system incorporated into this unit allows callers to leave separate messages for up to 4 people. Each of these voice mailboxes allows for a personal outgoing announcement. By utilizing the selective save and delete functions you can save the entire message or only the parts you need, and easy to follow prompts will direct you through a menu of remote commands when calling from a touch tone or rotary telephone Other features include voice/time stamp, handset play back and record, display screen indicating time, day, and number dialed, audible message alert, priority calling, memo, and 2-way call recording. An invaluable addition to any home office at...

$199.95

MODEL
1545
#1771677

MULTI-LINE BUSINESS PHONES

GENERAL ELECTRIC
GE We bring good things to life



TWO-LINE TELEPHONE

This ingenious telephone uses dual ringers with distinct ringer sounds and seperate ringer controls for each line! By pressing the conference button you will be able to conduct a three way conversation. An excellent value at only...

$39.95

MODEL 2-9420
#1674288

AT&T

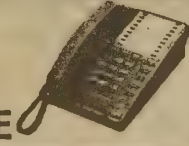
TWO LINE SPEAKERPHONE

AT&T delivers with this feature packed two-line speakerphone. The distinctive ringing feature will help distinguish which line is ringing, and 3-party conferencing allows you to bring calls from 2 phone lines together for 3-way conversations. An excellent value at...

$79.95

MODEL 722
#1548433

GENERAL ELECTRIC
GE We bring good things to life



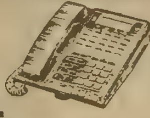
FOUR LINE SPEAKERPHONE

This deluxe four-line speakerphone is capable of handling up to four lines with a maximum of 16 stations. Its convenient 32 number one-touch telephone memory, along with all station page, intercom, call transfer, busy redial, flash and much more make this the perfect addition to any home or office at just......

$149.95

MODEL 2-9450
#1768637

AT&T



THREE LINE SPEAKERPHONE

AT&T's multi-functional centrex compatible 3-line speakerphone comes equipped with page, intercom, 3-way conferencing, LCD display, 40 number memory, auto line selection, hold, do not disturb function, auto-redial, mute, programmable pause, call transfer, flash, seperate ringer controls and more, all for only......

$179.95

MODEL 843
#1853892

COPIERS

SHARP

PORTABLE COPIER

This Sharp copier weighs in at just 14.8 lbs. and is amazingly compact and lightweight, making it easy to be carried or stored in a small place. Features include auto exposure control, auto start function, auto power shut-off mode, which completely cuts the power approx. 90 sec. after you finished copying. An excellent value at only.....

$299

MODEL Z-20
#1885620

Canon

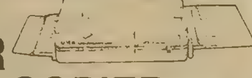
COMPACT COPIER

The size of Canon's compact personal copier makes it perfect for the home or office where space is at a premium. Some of the convenient features of this model includes the ability to copy on both sides of copy sheets, exposure control, and more. Now just...

$399

MODEL PC-310
#1849208

XEROX



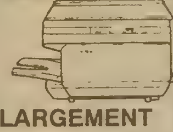
LETTER /LEGAL COPIER

Don't settle for a copy when you can have the original... Xerox. Xerox is so confident in the quality and reliability of its copiers that it offers an exclusive 3 year warranty on all its copiers. This model offers a paper tray that stacks 40 sheets, a built-in carrying handle and removable storable paper trays, multi-copy capability which can be set from 1 to 9 copies or "C" for continuous up to 20 copies, and automatic exposure which scans documents for degrees of lightness or darkness to determining the appropriate exposure setting. An invaluable addition to any home office. At only...

$497

MODEL 5222
#1886425

XEROX



COPIER W/REDUCTION & ENLARGEMENT

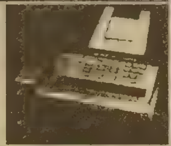
If you're looking for versatility and premium performance in a copier your search is over! Xerox has designed a copier that incorporates reduction/enlargement technology enabling you to reduce a copy 75% and 95%, and enlarge to 124%, a 250 sheet paper tray which adjusts to hold memo to letter to legal size paper, built-in automatic exposure which scans documents for degrees of lightness or darkness to determine the appropriate exposure setting, multi-copy capability of 1to 50 copies, letter and legal size copying, and manual bypass, all backed by the experts at team Xerox. Now just...

$797

MODEL 5009RE
#1706109

FAX MACHINES

BELL Phones
BY NORTHWESTERN BELL PHONES
A U S WEST COMPANY



FAX MACHINE W/16 LEVEL GREY SCALE

Northwestern Bell's feature packed Fax Machine offers a 5 page document feeder, 100 speed dial locations, 16 level grey scale, on-hook dialing, fax auto redial, transmission report slip, active report, handset volume control, last number redial and much more, now only...

$229.99

MODEL
FAXLINE 620
#1744796

brother.

FAX MACHINE W/PAPER CUTTER & 32 LEVEL GREY SCALE

Brother's breakthrough fax machine incorporates newly developed therma plus technology which uses fax paper that feels like plain paper and reduces print fading (last 3 times longer than thermal paper under normal filing conditions, and you can even use a highlighter!). Other features include, 15 page document feeder, 160 station memory, 32 level grey scale, activity report, polling and much more for only...

$379

MODEL FAX-680
#1794981

AT&T

PERSONAL FAX W/ DIGITAL MESSAGE CENTER

Compact in design. Practical in functionality. This personal fax with all digital answering machine and auto paper cutter will fit as comfortably on your desk at work as it will your kitchen counter! With two-way digital speakerphone, 5 page document feeder, 12 one-touch dialing numbers and 30 auto dial numbers, on hook dialing, polling, resolution and contrast control, transmission terminal identification, delayed transmission polling and 98' paper roll capacity, AT&T has developed the ultimate fax for the home or office at just...

$479

MODEL FAX-7860
#1850866

HEWLETT PACKARD
Authorized Dealer

PLAIN PAPER FAX MACHINE W/256 KBYTES OF MEMORY

This plain paper fax offers 256 Kbytes of memory, a 20 page document feeder, 32 gray scale levels, 100 page capacity with easy front reloading, 12 page memory, plus many more outstanding features for only...

$798

MODEL
HP-FAX900
#1841819

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

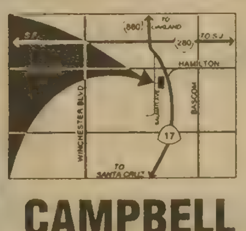
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

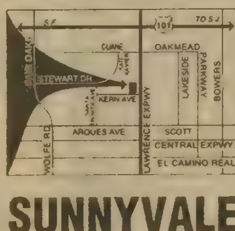
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD ACCEPTED

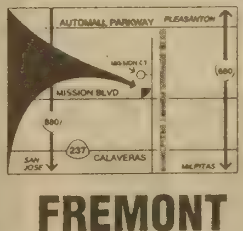
CORPORATE P.O. FAX #'s



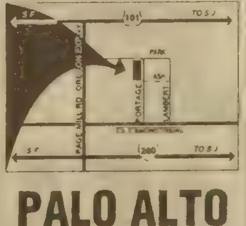
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

FRY'S ELECTRONICS IS YOUR TEST AND MEASUREMENT HEADQUARTERS

PLUS WE STOCK: TEST ACCESSORIES, METER CASES, PROBES, CRYSTALS, OSCILLATORS, RESISTORS, CAPS, EPROMS, PALS, PROGRAMMERS, UV ERASERS, SOLDERING EQUIPMENT, TTL LOGIC, DISCRETES, ELECTRONIC KITS, DATA BOOKS, TECHNICAL BOOKS PLUS MUCH MORE...

Tektronix

100MHz DIGITAL STORAGE OSCILLOSCOPE

With the introduction of the TDS 320, Tektronix redefines the low-cost digital oscilloscope. By sampling the signal at five times the analog bandwidth (500 mega samples per second on both channels simultaneously), you can be assured of true acquisitions, free from aliasing or other digital sampling effects. TDS 320 is the only scope in its class that can reliably acquire high speed transient or single-shot events to its full bandwidth. The TDS 320 has Dot, Dot Accumulate, Vector, and Vector Accumulate display modes—another advantage over the competiton.

$2895

TDS 320
#1823251

Tektronix

100MHz ANALOG 2 CHANNEL OSCILLOSCOPE

THE TAS 465 brings an advanced level of power and reliability to general purpose scopes. It brings leading edge innovation to low-cost analog scopes with comprehensive features Comprehensive Video Triggering simplifies triggering on complex video waveforms. With line or field (odd, even, or both) composite video selections and positive or negative sync, you can cleanly trigger on any NTSC, PAL, or SECAM video signal. The scopes' dual time base lets you zoom in on any portion of a waveform for closer examination. Auto Setup instantly delivers meaningful waveforms. Pressing the AUTOSET button automatically adjusts the horizontal, vertical, and triggering controls so that a stable signal is displayed.

$1995

TAS 465
#1823505

HITACHI

50Mhz OSCILLOSCOPE

With Single Time Base & High Resolution CRT. The usefullness of Hitachi scopes is extended to cover an array of new measurement applications.
2 channel • 6 inch screen
3 Year Warranty.

$995

V-522
#1746248

HITACHI

20MHz OSCILLOSCOPE

This lightweight, slim-line scope has become the standard of high performance. Hitachi scopes have earned acclaim from field-serving and maintenance personnel worldwide. 2 Channel, Single Time Base, 3 Year Warranty

$419

Model V-212
#1746237

BK PRECISION
MAXTEC INTERNATIONAL CORP.

20MHz DUAL-TRACE OSCILLOSCOPE

Dual or Single Trace Operation+1mV/DIV Sensitivity
20MHz Response at a true 3DB
AUTO/NORM triggered sweep operation with AC TVH TVV and the coupling
x10 magnifier • Bright, sharp rectangular CRT with P3331 phosphor X-Y operation
BK-2120 #155365

$389

Protek

DC POWER SUPPLY

A high quality DC power supply featuring a unique owner savings design for cooler and more efficient operation. Two separate LED displays; green readout for voltage and red for current. Continuously variable with LED indicators signaling either constant voltage or constant current operational mode. Good Line, load regulation plus low ripple and noise makes this a fine compliment to any test bench.

DC OUTPUT
30V @ 3A

$249

3003
#1693238

GoldStar

DC POWER SUPPLY

0-30 volts @ 3 amps Continuously Variable. Rugged Construction with Constant Current and Constant Voltage Operation. Overload protection circuit. Output Polarity: Positive and Negative. Low Ripple Voltage Less Than 2mV p-p.

$209

GP-303
#1864678

BK PRECISION
MAXTEC INTERNATIONAL CORP.

2 MHz FUNCTION GENERATOR WITH DIGITAL DISPLAY

- Generates sine, triangle, square, pulse and ramp waveforms
- TTL Pulse and CMOS Pulse outputs
- Coarse and Fine Frequency Controls
- Variable amplitude output, plus 20dB step attenuator
- Four digit frequency counter display
- Variable DC offset, with on-off switch
- Variable duty cycle; CAL position for 50% duty cycle

$249

MODEL
3011B
#1460267

BK PRECISION
MAXTEC INTERNATIONAL CORP.

100MHz PORTABLE FREQUENCY COUNTER

5Hz to 100Mhz Range • 8 Digit LED Display
selectable 1.0 Sec/0.1 Sec Gate Times
Low pass filter • Battery or AC Power
Charger/AC adapter included

$209

BK-1803B
#155339

FLUKE 87 4.5 DIGIT TRUE RMS DIGITAL MULTIMETER

19,999 Count high resolution mode, plus 1ms Peak Min/Max Hold.
- Min/Max/Average recording mode w/Min/Max alert
- Frequency, Duty Cycle, and Cap Measurements
- Back-lit display, touch hold, relative modes
- Protective Holster with Flex stand
- Made in USA
- 3 Year Warranty

$298

#1440238

Tektronix

3.75 DIGIT DMM 4000 COUNT, TRUE RMS

- .1% Basic DC accuracy
- Meaures Capacitance and Frequency with Data Hold, Compare Mode, Memory Offset, Autoranging, Auto Power Off plus more!

$229

DM254
#1823653

AMERICAN RELIANCE INC.

3.75 DIGIT DIGITAL MULTIMETER

w/AUTORANGING & 1 YEAR WARRANTY

- True Rms AC
- Auto Data Hold
- Sleep Mode
- Min/Max Memories
- Relative Mode
- 20A Fused
- Frequency Counter
- Capacitance
- Memory Read Function
- 0.3% Basic Acc.

AR-MODEL 37 #1742369

FREE BOOT
W/PURCHASE
#1744648

$99.95

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

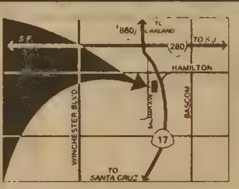
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

VISA AND MASTERCARD ACCEPTED

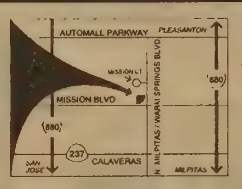
CORPORATE P.O. FAX #'s



CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595

S.F.
101
TO S.J.
DUANE
OAKMEAD
FAIR OAKS
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
SANTA TRINITA AVE
LAWRENCE EXPWY
WOLFE RD
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

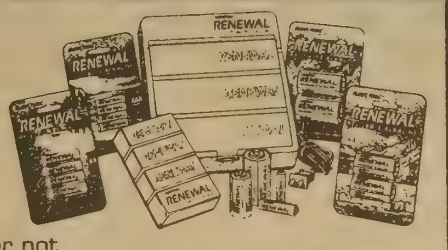
S.F.
101
TO S.J.
PAGE MILL RD
OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

YOUR BEST COMPONENTS AND ACCESSORIES BUYS ARE ALWAYS AT FRY'S!

RAYOVAC® RENEWAL®

REUSABLE ALKALINE™



INTRODUCING THE BEST PERFORMING BATTERY SYSTEM IN ALL OF CREATION!

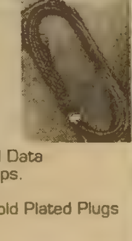
Renewal is a breakthrough technology that gives you long-life alkaline power not just once, but time after time. The Renewal Power Station is NO ORDINARY BATTERY CHARGER! Built-in computer microchip technology monitors and charges each Renewal battery individually to maximize performance on every charge. Made in the U.S.A.

4-PACK AA CELLS $5.39
715-4 #1850899

2-PACK C CELLS $4.89
714-2 #1850888

NEW

CATEGORY 5 JUMPER CABLE



- 4 Pair, 24 AWG, PVC Cable with RJ45 Plugs
- Intended to be used for Voice and Data Transmission Rates up to 100Mbps.
- ANSI/EIA/TIA - 568B Compliant
- Terminated with 50 Micro-Inch Gold Plated Plugs
- Frequency Test 100MHz
- Available in 7, 14, and 25 ft.

#1820177

$12.99 7 ft.

MAG-LITE® MINI-MAGLITE AA FLASHLIGHT

Batteries included.
BLACK #1869709
GOLD #1883053
RED #1869710
BLUE #1883064

YOUR CHOICE!

$11.99 EACH

MAG-LITE® 2D CELL FLASHLIGHT

616-1002 #1869721

$19.99

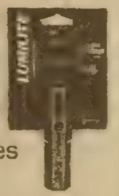
KRYPTON FLASHLIGHT COMBO

Three different sizes to cover every need. Batteries included.
Model 8014
#1856426

LUMILITE

$11.99

KRYPTON 2C FLASHLIGHT



Uses two C size batteries (not included)
Lumilite® LK4 bulb
Model 8400
#1856390

LUMILITE

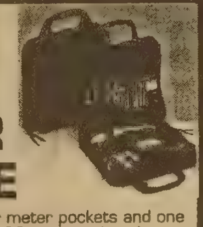
$3.99

GEMINI "2 in 1" FLOOR/TABLE LAMP

Adjustable 54" max.
Halogen/JC Type
50 watt bulb (Included)
LS-376 #1875535

$54.99

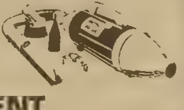
platt TROUBLE SHOOTER TOOL CASE



Black cordura with two exterior meter pockets and one document pocket. Interior has 29 sewn tool pockets and one meter pouch.
13" x 10" x 2". 660ZT-BLK #1790199

$64.99

METRO DATA-VAC HI-TECH OFFICE EQUIPMENT MAINTENANCE

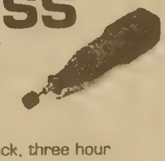


- Lightweight, portable- goes wherever needed.
- Vacuum or power blow
- Attachments include 19" flexible hose, crevice tool air "pin pointer", soft bristle dust brush, shoulder strap and 5 disposable bags.
- Unit measures 4" in diameter; 16" long.

$48.99

MDV-IC
#1517352

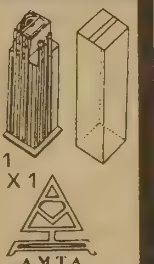
DREMEL® MINIMITE CORDLESS ROTARY TOOL



Includes removable battery pack, three hour charger and five precision bits.
Model 750 #1740471

$33.88

10 PIECE CHANGEABLE SCREWDRIVER SET



SLOTTED: 1/8" X 1, 1/4" X 1
PHILIPS: #0 X 1, #1 X 1, #2 X 1
NUT DRIVER: 3/16" X 1, 1/4" X 1, PUNCH
TOA-S-11 #1885365

AMTA

$9.99

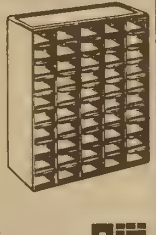
QVS 26 PIECE PROFESSIONAL COMPUTER MAINTENANCE KIT WITH 35 WATT SOLDERING IRON

- Reversible torx tool•Parts gripper/picker
- Adjustable 6" wrench•Two nut drivers (3/10", 1/4")
- Spare parts/storage tube•Three Philips screwdrivers
- Chip inserter and extractor
- Spring loaded soldering clamp
- Compress and expand tweezers
- Roll of solder in handy dispenser
- Three standard blade screwdrivers•Needlenose pliers
- Spring loaded vacuum desoldering pump
- 6 soldering tools, cleaners, scrapers, picks
- 4 in 1 wire stripper, cutter, crimper, sizer tool
- Handy padded, zippered vinyl carrying case
- 3.5 watt UP listed soldering iron, removable tip, 6' cord

MODEL
CA216
#1887688

$39.99

50 DRAWER STORAGE CABINET



See-thru drawers
Stackable frames
Recessed tray top • Pedestal base
Keyhold hanging slots
Gray pebble grain finish
Model 10-350
#1541399

AKRO-MILS

$8.79

AKRO-MILS 19" TOOL BOX

The handsome red textured finish won't chip, crack, rust or corrode. Features include sure-lock metal latches, deep main storage compartment, full interlocking hinges, padlock eye, and convenient lift-out tray. Storage capacity is 1180 cubic inches.
19" w. x 9.5" d. x 8.5" h.

$8.79

09-919
#1745823

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

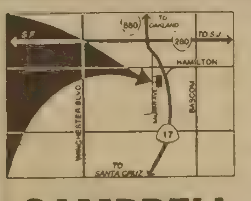
Prices Good Through March 29, 1994

Limit Rights Reserved
Not Responsible For
Typographical Errors

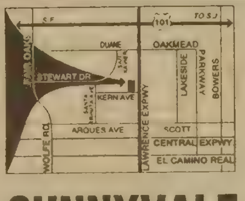
STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

VISA AND MASTERCARD ACCEPTED

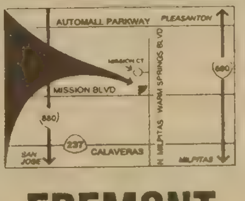
CORPORATE P.O. FAX #'s



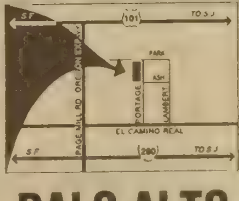
CAMPBELL
600 E Hamilton Ave.
(408) 364-3700
(408) 364-3595



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408) 735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

PRODUCT SPOTLIGHT

New Products

PC Hardware

DIGIDESIGN SAMPLECELL II FOR WINDOWS

SampleCell II is a 16-bit, 32-voice sample playback card for the Windows PC platform. It provides an easy-to-use, powerful, and cost-effective sample player for music and audio postproduction. A basic SampleCell II system features dynamic digital filtering and eight polyphonic analog outputs. Also included are two CD-ROM sound library discs with over 650MB of ready-to-load instrument samples and sound effects. Each card supports up to 32MB of RAM. ($1495, RAM not included) Digidesign, Inc., 1360 Willow Rd., Menlo Park, CA 94025. (415)688-0600.

NEC MULTISPIN 4X PRO CD-ROM

The MultiSpin 4X Pro CD-ROM drive is a high-performance external reader for use in development and professional applications. With data transfer rates four times those of single-speed drives, it provides the smoothest digital animation and video available, as well as the ability to handle complex and intricate applications. It is compliant with Multimedia PC Level 2, QuickTime, XA Ready, and Kodak Multisession PhotoCD standards. NEC's Music Sensor also gives users the ability to play audio CDs. Included with the drive is a switchable dual SCSI 2/SCSI 1 interface port for enhanced compatibility and easy peripheral daisy chaining. In addition, an automatic lens cleaning system and the ability to be used in a vertical or horizontal orientation make the MultiSpin 4X Pro self-maintaining and practical. It is compatible with DOS, Windows, and Macintosh environments. ($995) NEC Technologies, Inc., 1255 Michael Dr., Wood Dale, IL 60191. (708)860-9500.

TRILLIUM 4510 PC SYSTEM

What distinguishes Trillium PCs are the colored exteriors and five-year on-site warranty. They feature a lustrous finish in custom colors and logos to promote corporate identity. Color around the monitor can be graduated to reduce glare. Also available are pinstripes and other graphic accents as well as colorware design support services. The 4510 VESA Local Bus PC comes with 4MB RAM, Teac 1.44MB floppy disk drive, 130MB hard drive, 16-bit SVGA card, 14" 1024 x 786 monitor, and more. The five-year on-site warranty covers parts and labor for the full life of the unit. ($2470) Sys-LAN, Inc., 2500 West County Rd., Ste. 290, Burnsville, MN 55337. 1-800-776-3567.

UPDATES

❖ **Borland International** announced **Borland Office 2.0** for Windows. The package includes WordPerfect 6.0 for Windows, Quattro Pro 5.0 for Windows Workgroup Edition, and Paradox 4.5 for Windows Workgroup Edition. Current users of WordPerfect, Quattro Pro, or Paradox for DOS or Windows can upgrade for $249. Borland International, Inc., 1 Borland Way, Scotts Valley, CA 95066-001. 1-800-331-0877.

❖ **Island Graphics** shipped **IslandTrapper 1.1**. All registered users will receive the upgrade for free. Island Graphics Corp., 4000 Civic Center Dr., San Rafael, CA 94903-4178. (415)491-1000.

❖ **Hewlett-Packard** reduced the price of its **HP Optiva 95R** toner cartridge to $79. Hewlett-Packard Co., PO Box 58059, MS511L-SJ, Santa Clara, CA 95051-8059. 1-800-527-3753.

❖ **Jensen-Jones** introduced **Commence 2.1**. Registered users of Commence 2.0 who purchased their copies on January 1, 1994, or after may ugrade for free. Other registered users of Commence 2.0 may upgrade for 29.95. Registered users of Commerce 1.0 may upgrade for $69.95. Jensen-Jones Inc., Parkway 109 Office Center, 328 Newman Springs Rd., Red Bank, NJ 07701. (908)530-4666.

❖ **MAGEE** announced **Automenu 5.0 Net**. Registered users may purchase the upgrade for $99 per server. MAGEE, 2909 Langford Rd., Ste. A600, Norcross, GA 30071-1506. 1-800-662-4330.

❖ **ON Technology** introduced **Notework 3.0**, which has a completely redesigned Windows interface. Upgrades are free to purchasers of Notework 2.5 and $29.95 for purchasers of Notework 1.0. ON Technology Corp., One Cambridge Center, Cambridge, MA 02142. (617)374-1400.

❖ **PrairieSoft** released **DiskTop 4.5**. PrairieSoft, Inc., 1650 Fuller Rd., West Des Moines, IA 50265. (515)225-0134.

❖ **Tippecanoe Systems** announced **Bars & Stripes for Word 6.0**, which now supports Word for Windows 6.0. Tippecanoe Systems, Inc., 5674 Stoneridge Dr., Ste. 119, Pleasanton, CA 94588. (510)416-8510.

❖ **Traveling Software** announced a **CommWorks and Gateway 2000 modems bundle**. Traveling Software, 18702 N. Creek Pkwy., Bothell, WA 98011. (206)483-8088.

Technoland

We Do Business Your Way!

(408) 992-0888

Put "Metro" to work with our free SCSI device drivers

The XL-221 is a new, low-cost and high performance ISA SCSI host adapter. The XL-221 provides all the connectivity to CD-ROMs, optical devices, removable and fixed disks, floptical devices and many more without any additional cost. It offers high performance programmed I/O (PIO) data transfers on the host bus capable of 4Mbytes/s It is the most cost effective SCSI host adapter in the market.

- * Fully ISA bus compatible
- * Conforms to ANSI X3T9.2 standard
- * Coexist with IDE OR WD-1003 compatible hard disk controller
- * Int 13 ROM BIOS support for up to 7 devices
- * RAM BIOS for high speed performance
- * ASPI Managers for DOS or Windows
- * CD-ROM drivers for DOS or Windows
- * Audio CD-ROM drivers for SONY, NEC, TOSHIBA, etc.
- * MO drivers support
- * Removable hard disks driver support
- * Floptical device driver support
- * Utilities for low level and high level format
- * RAM BIOS for high speed performance
- * ASPI Managers for DOS or Windows

$68

THIS VL-BUS FAST SCSI ADAPTER WILL PUT GOLD IN YOUR POCKET!

The XL-525 is a new, low-cost and high performance, fast SCSI host adapter for VESA computers. It offers a 10 MB/sec SCSI data transfer rate and provides all the connetivity to CD-ROMs, optical devices, removable and fixed disks, and more without additional costs.

- * Fast SCSI Data: 10.0 Mbytes/s
- * Host Data Transfer Rate: 26.6 Mbytes/s
- * Full VESA local bus compatibility
- * Conforms to ANSI X3TP.2 SCSI-II standard
- * Auto CPU speed detection to increase host performance
- * Coexists with IDE or WD-1003 compatible hard disk controller
- * One parallel, one game and two serial ports
- * Comprehensive Driver Support
  - -ASPI manager drivers
  - -CD-ROM drivers
  - -MO drivers
  - -Removable hard disk drivers
  - -Floptical drivers
  - -Utilities for low level and high level format
  - -FREE driver updates!

$118

IDE & SCSI CONTROLLER

IDE 2HD/2FD	$12
IDE 2FD/2HD w/2 Serial, 1 Parallel & 1 Game Ports	15
IDE VLB w/2 Serial, 1 Parallel & 1 Game Ports	39
TECO DC-680 IDE VLB CACHE 4HD/2FD	169
TECO DC-620 EISA IDE CACHE 4HD/2FD	190
ADAPTEC SCSI BUS MASTER 1542C/1542C Kit	190/249
ADAPTEC SCSI EISA 32-Bit	349
FUTURE DOMAIN SCSI 16-Bit	65
PORTWELL XL-221 ISA SCSI w/CD-ROM, MO Drivers	68
PORTWELL XL-525 VLB SCSI II w/2 Serial, 1 Parallel w/CD-ROM, MO and Floptical Drive Drivers	118

IDE HARD DRIVE SPECIAL!

40 MB	SEAGATE ST157A	$128
120 MB	MAXTOR 7131	178
170 MB	CONNER CP30174E	183
200 MB	CONNER 30204/MAXTOR 7213A	192
250 MB	CONNER CP30254/MAXTOR 7245A	215
340 MB	MAXTOR 7345A	269
540 MB	CONNER CFA540A/MAXTOR 7535A	449

SCSI & LARGER CAPACITY HARD DRIVES ARE ALSO AVAILABLE

MEMORY MODULES

FREE INSTALLATION

FREE INSTALLATION

256KB SIMMS (3 CHIPS)

256KB x 9-80ns	$13
256KB x 9-70ns	14

1 MB SIMMS (3 CHIPS)

1MB x 9-80ns	$43
1MB x 9-70ns	45
1MB x 9-60ns	47

1 MB SIMMS (9 CHIPS)

1MB x 9-80ns	$54
1MB x 9-70ns	56
1MB x 9-60ns	57

4 MB SIMMS (9 CHIPS)

4MB x 9-80ns	$159
4MB x 9-70ns	161

72 PIN SIMMS

(1MB)	256KB x 36-70ns	$51
(2MB)	512KB x 36-70ns	$102
(4MB)	1 MB x 36-70ns	$186
(8MB)	2 MB x 36-70ns	$392
(16MB)	4 MB x 36-70ns	$725

486 VESA LOCAL BUS MOTHERBOARDS

*** CPU**

486SX-25/33 , 486DX-33/40/50 , 486DX2- 50/66 , 487SX-25/33 , ODP486(OVERDRIVE)- 25/33

- PGA and PQFP package CPU's are acceptable, 239 pin PGA or ZIF socket optional

*** MAIN MEMORY**

-256KB, 1MB, 4MB, 9-bit SIMM modules acceptable

-Maximum 32 MB on board

*** CACHE MEMORY**

-64KB / 128KB / 256KB / (8KB X 8, 32KB X 8 DIP)

*** CHIPSET - SUS 85C461**

486SX-25	$180
486DX-33	$365
486DX-50	$520
486DX2-50	$390
486DX2-66	$560

Cirrus Logic (5428) VESA LB

- * 1MB RAM EXP. to 2MB
- * with LOCAL BUS IDE HD Controller
- * 16M Colors
- * Supports 1280 x 1024 @ 256C

$89

4MB RAM	$152	8MB RAM	$ 304
16MB RAM	$632	32MB RAM	$1264

Prices on Motherboard Purchase Only

HUGE SELECTION OF CD TITLES IN STOCK!

*ATLAS *GRAPHIC *SOUND, MUSIC
*EDUCATION *REFERENCE *FAMILY APPLICATION
*GAMES *SHAREWARE *ENTERTAINMENTS *ADULT

Beauty & The Beast	$21	KGB World Fact Book	$32
Barney Bear Goes to Space	$21	King's Quest V	$23
Chessmaster 300 MPC	$23	Loom	$23
Carmen San Diego-Deluxe	$33	Mixedup Mother Goose	$21
Desert Storm	$23	Monkey Island	$24
Dinosaur Adventure	$24	Nat'l Geographic Mammals	$27
Family Choice	$27	National Parks	$27
Game Master	$21	Peter and The Wolf	$23
Great Cities-Vol 1 or 2	$26	U.S. Atlas	$21
Jones in The Fast Lane	$23	World Atlas	$21

MultiPro Photo Starter Kit (Kodak Photo CD compatible)	$198
NEC 84XT SCSI 280ms 300KB	$395
TOSHIBA 3401B SCSI 200ms 330KB	$395
SONY 31A W/Controller Card	$215
PANASONIC CR522 W/Audio Card & Controller	$215
MIDILAND PP12 SHIELDED SPEAKERS - 20 Watt	$69
HEAVY DUTY SHIELDED SPEAKERS - 80Watt	$79
LIGHT WEIGHT HEADPHONES W/EXTENSION CORD	$15

VGA on Television Special!

- * Supports Both PC and MAC(optional)
- * Supports All IBM Standard Modes up to 640x480 for NTSC and 800x600 for PAL
- * Simultaneous Graphics Display on Both VGA and TV Monitor.
- * Input: VGA DB-15 Pin Connector
- * Output: Composite Video, S-Video, RGB Video(51KHz) & VGA RGB(31KHz)
- * Flicker Filter Built-in
- * TSR display adjustment for DOS & Windows 3.x
- * No Special Driver Needed!

ONLY **$229**

List Price $449

-AVerkey

- ACT NOW! -

And Receive an Award Winning Presentation Software Program **FREE!**

Macromedia Action! 2.5 SE

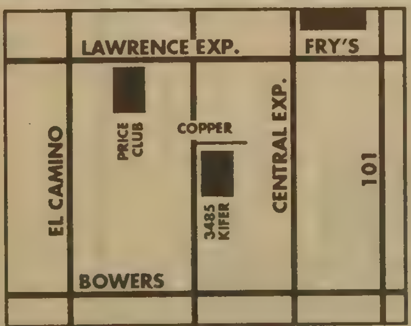
with Every AVerkey Purchased

No Surcharges for Credit Card Purchases

No **Annoying Voice Mail Answering Machines**

Yes We Gladly Accept P.O.'s From CVorp., Educ. and Government Accounts

Yes **We Will MEET or BEAT ANY ADVERTISED PRICE!**



COME SEE OUR SHOWROOM!

1 Block Away From Price Club At The Intersection of Kifer and Copper
3485 KIFER ROAD SANTA CLARA, CA 95051

TEL: (408) 992-0888

VISA **FAX: (408) 992-0808** MasterCard

MON-FRI 9 AM-6 PM/SAT 10 AM-5 PM

Prices subject to change w/o notice, not responsible for typographic errors

• Best Memory Prices • Higher Quality •
• Same Day Shipping •

LAPTOP MEMORY

PowerBook 140/170 4MB	$185
6MB	255
PowerBook 160/180 4MB	185
6MB	255
8MB	350
10MB	425
PowerBook 165C/180C 4MB	185
6MB	265
8MB	360
10MB	425
Apple Newton SRAM Card 1 MB	$255
IBM ThinkPad 700/C, 4MB	$245
720/C, 750/C, 8MB	440
16MB	965
PCMCIA Card For Palmtops: HP-95LX, HP-100LX, Fujitsu, Casio, HP Omni Book 512K	$110
1MB	159
2MB	249

SPECIAL MATH CO-PROC

INTEL 80387DX-20 /25Tube	$30

MATH CO-PROCESSOR

INTEL

80487SX (For all Speed)	$329
80487SX-20 Overdrive)	299
80486SX-25 (Overdrive)	429
80486SX-33 (Overdrive)	559
80486DX-25 (Overdrive)	449
80486DX-33 (Overdrive)	569
8087-5 MHz	50
8087-2 8 MHz	69
8087-1 10 MHz	110
80287-6 6 MHz	35
80287-8 8 MHz	39
80287XL 12 MHz (Laptop)	69
80287-10 10 MHz	35
80C287-12 MHz	35
80387SX-16,20,25	79
80387DX-16,20,25,33	79
80387DX-25 (Tube)	39

WEITEK

3167-20 20 MHz (Tube)	$29
3167-25 25 MHz	79
3167-33 33 MHz	169
4167-25 MHz	299
4167-33 MHz	529

CYRIX

83D87-40 40 MHz	$79
83D87-20 20 MHz	49
83D87-25 25 MHz	59
83D87-33 33 MHz	69
83SX87-25 16 MHz	55
83SX87-33 MHz	69

IIT

8C87-8	$29
80C287-10	39
80C387SX-25	59
80C387SX-33	69
8C387DX-20	59
8C387DX-25	59
8C387DX-33	69
8C387DX-40	79

ULSI

US 83C87 16/20 MHz SX	$49
US 83C87 20/25 MHz SX	59
US 83C87 25/33 MHz DX	59
US 83C87 40 MHz DX	79

EPROMS

2764-200ns	$275
27C64-200ns	299
27128-200ns	300
27128-150ns	400
27256-200ns	350
27C256-200ns	375
27C512-200ns	399
27C020-150ns	799
27C010-150ns	599
27C040-150ns	1399
514402-80 (1x4) STT, ZIPP	28
514400-80 (1x4) ZIPP	24
514400-80 (1x4) DIPP	45
514400-70 (1x4) SOJ	19
514400-70 (4x1) SOJ	17

APPLE MEMORY

Macintosh Classic 1MB Exp Board	$95
2MB Kit	135
Macintosh Color Classic 4MB Kit	230
Performa 200, 400, 500 8MB Kit	320
Macintosh Classic II, LC, LCI 2MB Kit	135
4MB Kit	230
8MB Kit	320
Macintosh Plus, SE 2MB Kit	135
4 MB Kit	245
Macintosh II, IIx 4MB Kit	245
16MB Kit	595
Macintosh II, IIx 4MB Kit	135
16MB Kit	245
Macintosh SE30 4MB Kit	245
16MB Kit	595
Macintosh IIcx, IIvx 4MB Kit	245
16MB Kit	595
32MB Kit	1498
64MB Kit	2795
Macintosh IIci, IIsi 4MB Kit	245
8MB Kit	389
16MB Kit	595
32MB Kit	1498
64MB Kit	2795
Macintosh LC III 4 MB	178
Centris 610, 650 8MB	325
Workgroup Server 60 16MB	655
Workgroup Server 80 16MB	655
Centris 660AV 8MB Kit	335
16MB Kit	625
32MB Kit	1265

HEWLETT PACKARD MEMORY

DeskJet 500, 500C 256K 500C, Plus	$89
LaserJet II, IID 0MB	69
*(M-1/2/4MB) 0MB	69
*(K-2/4MB) 1MB	99
2MB	135
4MB	220
LaserJet III, IIID, IIP 0MB	49
IIP Plus, IIIP 1MB	99
7550B Plotter 2MB	135
4 MB	220
LaserJet IIIsi 1MB	89
DesignJet 2MB	135
DesignJet 600 (4/8MB) 4MB	169
PaintJet XL300 8MB	345
DesignJet 200 (2/4/8MB) 1MB	85
LaserJet 4,4M,4si,2siMX 2MB	135
4P, DeskJet 1200C 4MB	189
DeskJet 1200C/PS 8MB	345
LaserJet 4L 1MB	89
LaserJet Fax 1MB	89
PaintJet XL300 0MB	89
LaserJet 4P, 4MP 1MB	89
2MB	135
4MB	179
8MB	340

DELL MEMORY

DESKTOPS

LowProfile Power Desktop 1MB	$98
486P Series and Power 4MB	189
Desktop 486D, Precision 48 16MB	745
Performance ME 4MB	189
8MB	385
16MB	745
32MB	1385
PowerLine Workstation 2MB	159
DE Series System 425TE 4MB	225
8MB	385
Powerline Workstation 16MB	745
SE Series 32MB	1385

SYSTEMS

System 325D, 325P, 333D 1MB	98
333P, 433P 4MB	189

CYRIX/T.I. CPU'S

CX486DLC-33	$95
TX486DLC-40	$95

SHARP MEMORY

NOTEBOOKS

PC-3000 512K	$125
1MB	179
2MB	289
PC-6220, 6240 1MB	135
PC-6700, 6741, 6781 2MB	155
6785, 6800, 6841, 6881 4MB	249
6891	

PRINTERS

JX-9400, 9600, 9600PS 1MB	125
9700E 2MB	150
4MB	245
JX-9500PS 0MB	39
1MB	89
JX-9500, 9500E, 9500H 1MB	145
9700 1.5MB	179
2.5MB	189
4MB	269

IBM MEMORY

DESKTOPS

PS/2 35LS, 35SX, 40 SX 0MB Board	$165
50Z(2MB) 55LS(1/2/4MB) 1MB	75
55SX, 65LS, 65SX (2/4MB) 2MB	125
P70, 70-061 (2MB) 4MB	189
E61, 70-121 (1/2MB) 8MB	365
PS/Value Point 325T 16MB	685
XStation 120 (1/2 MB)	
XStation 130 (1/2/4MB)	
PS Value Point 486 Series 4 MB	189
16MB	585
PS 70-A21, A61, B21, B61 2 MB	125
PS/2 56 & 57 Series (2/8MB) 2MB	125
56SX, 56SLC, 90, 95 & 4MB	189
P75 (4MB) 8MB	365
57SX, 57SX M2123	
PS/1 Pro 386SX M2123	
RS/6000 PowerStation	
PowerServer 220 (2/4MB)	
PS/2 80-041 1MB	95
PS/2 80-081, 111, 121 2MB 161, 311, 321	145

NOTEBOOKS

PS/2 Laptop L40SX 2MB	$135
N33SX (2/4 MB) 4MB	189
PS/Note 182 8MB	385
PS/2 N51 SLC/SX 2MB	135
4MB	189
8MB	360
ThinkPad 3002MB	140
8MB	345
ThinkPad 350/350C 4MB	189
8MB	360
16MB	735
CL57SX 4MB	249
ThinkPad 700, 720 8MB	445
ThinkPad 750 4MB	245
8MB	445
16MB	895

PACKARD BELL MEMORY

DESKTOPS

PackMate 966 4MB	$189
16MB	645

PRINTERS

PB-9600 0MB	89
2MB	165
4MB	285
PB-9815 2MB	145
3MB	175
4MB	245
33T 4MB	245
VIDEO CARD 1MB	39

APPLE MEMORY UPGRADES

SIMMS/MEMORY, 30 PIN

1MB-80	$33
1MB-80/70	43/63
4MB-80	149
8MB-70/60 (Non Comp)	365/389
16MB-70/60 (Non Comp)	595/689

CENTRIS 610, 650, 660AV, LCIII
QUADRA 605, 610, 650, 72 PIN

1MB-70	$52
2MB-70	95
4MB-80	189
4MB-70	189
8MB-80	365
8MB-70	289
16MB-70	585
16MB-70	610
32MB-70	1145

QUADRA 800, 840AV 72 Pin

2MB-60	$135
4MB-60	189
8MB-60	325
16MB-60	645
32MB-60	1185

POWERBOOK 140, 145B, 170

4 MB	$185
6MB	279

POWERBOOK 160, 165, 180

4MB	189
6MB	279
8MB	375
10MB	445

POWERBOOK 165C, 180C

4MB	235
6MB	325
8MB	369
10MB	445

AST MEMORY

Bravo 3/33(LC) 325S 2/8 MB	$145/389
Bravo 486/25 & 4/33 2/8 MB	145/389
Bravo 486LC 4/8/16 MB	189/389/635
Cupid-32 Board 0K	239
Premium 386C 4 MB	235
Premium SE 450 4 MB	235
Premium 386/25, SX,33,486/25 1 MB	135
Premium II 386, 486 1/4 MB	135/235
Executive Notebook 4 MB	235
Other Models	CALL

SUN MEMORY

SPARC SLC	4 MB	$189
3/60, 80, 4/40, 60, 65	4/16 MB	189/795
SPARC 1 &1+, 1Pc	4/16 MB	189/795
SPARC 10	16/64 MB	745/CALL
SUN Classic	16 MB	745
SPARC Server 630np	64 MB	2285
SUN IPX, ELC	4/16 MB	189/775
SPARC II	16 MB	795
Other Models		CALL

LOWEST PRICES
SAME DAY
SHIPING

AMT INTERNATIONAL

LOWEST PRICES
SAME DAY
SHIPING

2393 QUME DRIVE, SAN JOSE, CA 95131
(408) 432-1790 (408) 383-9044 FAX (408) 383-9047

PC Software

SPEAKEASY TEACHER'S TOOLS

Educational computer programs are not always popular because teachers cannot control the content of the lessons. Teacher's Tools is an authoring program that allows the teacher, with no knowledge of programming, to build their own multimedia lessons on a personal computer in less than fifteen minutes. Working with the ten lesson templates included, a teacher can record the dialogue from the assigned textbook, create exercises based on the text, or create lessons for students who need special help. The lessons are titled and placed in one of three student menus, allowing individual students to access separate lessons. Lessons can be saved to form a library or copied to a diskette and transferred to another PC. The program requires Windows 3.1 and a sound card capable of recording. ($395) SpeakEasy Software, Inc., 476 Madera Ave., #3, Sunnyvale, CA 94086. (408)732-9619.

Monitors

SAMTRON 14" COLOR MONITOR

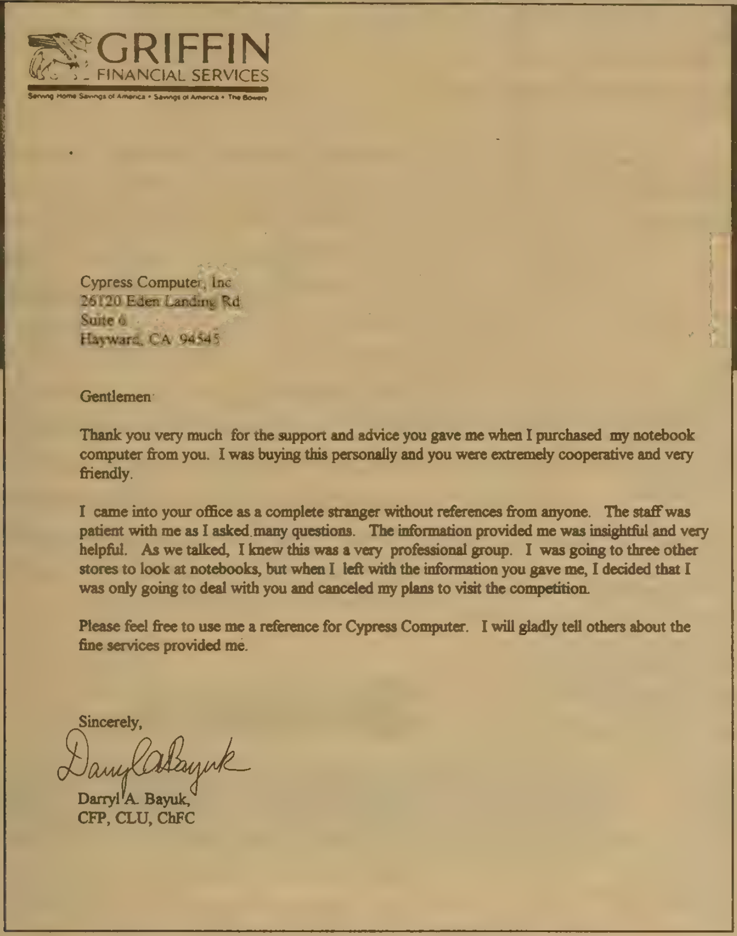
The Samtron SC-428UXL is targeted to the rapidly growing small office/home office market. This 14" flicker-free color display allows users to save up to 95% of the unit's typical energy consumption when idle through power-down features. In addition to being Energy Star certified, it also meets the most stringent low emissions requirements and boasts a sleek design with upfront digital controls for clarity and ease-of-use. ($499) Samtron Displays, Inc., 14251 E. Firestone Blvd., Ste. 101, La Mirada, CA 90638. 1-800-802-8425.

Printers

TEKTRONIX PHASER 220

The new Phaser 220i and 220e thermal transfer color printers provide 600 x 300 dpi with Tektronix's proprietary TekColor SuperCell 600 technology. With SuperCell 600, text and graphics are sharp and clear, approaching the quality of continuous-tone dry sublimation printers, but at much lower cost and higher speed. To meet the

CALL FOR COMPUTER UPGRADES & REPAIRS



GRIFFIN
FINANCIAL SERVICES
Serving Home Savings of America • Savings of America • The Bowery

Cypress Computer, Inc
26120 Eden Landing Rd
Suite 6
Hayward, CA 94545

Gentlemen

Thank you very much for the support and advice you gave me when I purchased my notebook computer from you. I was buying this personally and you were extremely cooperative and very friendly.

I came into your office as a complete stranger without references from anyone. The staff was patient with me as I asked many questions. The information provided me was insightful and very helpful. As we talked, I knew this was a very professional group. I was going to three other stores to look at notebooks, but when I left with the information you gave me, I decided that I was only going to deal with you and canceled my plans to visit the competition.

Please feel free to use me a reference for Cypress Computer. I will gladly tell others about the fine services provided me.

Sincerely,

Darryl A. Bayuk

Darryl A. Bayuk,
CFP, CLU, ChFC

"#1" Graphics Winmark Test
"Excellent" For Windows Applications
"Excellent" For Dos Applications
"Excellent" For Desktop Replacement
— PC MAGAZINE December 1993

Cypress 820 Notebook

Cypress
Computer

- 10" Active Color Matrix or Dual Scan Color or 64 gray scale Mono
- 32-Bit VESA Local Bus Video
- 128K Secondary Cache
- PCMCIA slots (type III)
- 4MB RAM, Expandable to 8, 12, 16, or 20MB
- 1.44MB floppy drive
- 127MB hard drive (200, 252, 340MB, 520MB optional)
- Built-in trackball
- Carrying case, battery adapter
- 11" x 8.6" x 1.9", 6.6lbs
- 2 Year Labor & 1 Year Parts Notebooks

intel inside

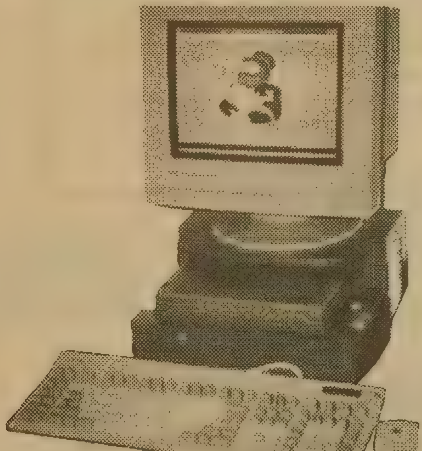
Model/CPU	820M Mono	820S Dual Scan Color	820T Active Color
486SX-33	$1649	$2250	$3400
486DX-33	$1779	$2400	$3250
486DX2-66	$2049	$2650	$3550

Cypress 820 Notebook gives 32-Bit VESA Local Bus Power and the expandability of a desktop computer!

Cypress Super Docking Station

Super Docking Station

$445



Big screen monitor stand

4 expansion slots: 2-32 Bit VESA Local Bus, 2-16 Bit ISA with space for full length cards.

Internal 3-1/2" drive bay for SCSI hard drive of up to 2GB

Drive bay for SCSI CD-ROM or tape back-up

Built-in stereo speakers

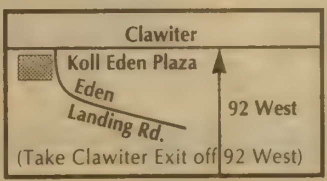
Ports for 2 Serial, 1 Parallel, Keyboard and SVGA Display

CYPRESS CYPRESS CYPRESS CYPRESS

CYPRESS COMPUTER

Leasing and 0% Financing Available

HEADQUARTERS:
26120 Eden Landing Road, Suite 6, ❖ Koll Eden Plaza, Hayward, CA 94545
Tel: 510-786-9106 ❖ Fax: 510-786-9553
1-800-728-6688
Hours: Monday-Friday 8:30-6:00 • Saturday by appt.



WHY CYPRESS?

We Will Beat Any Advertised Price!

Buy from the source and save! Look for the ON-SALE model which offers exceptional value.

Fast 48 Hour Turnaround

If we can't meet our deadline, we'll give you a free loaner. Our unparalleled guarantee reflects our outstanding reliability and dedication to our customer's satisfaction.

Excellent Technical Support

We have special equipment and qualified technicians to repair notebooks and all surface mounted components.

Solid Reputation

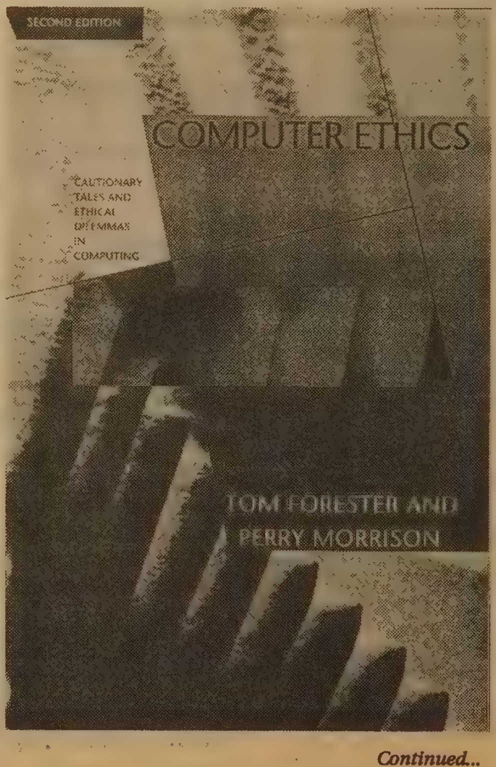
We have our own R&D department and register our own patents. Our happy customers include: The US Postal Services, Stanford University, EBMUD, Signal Sciences, Sage Instruments, New York Life, Etc.

needs of workgroups that share printers, the high-resolution Phaser 220 printers output at a fast two pages per minute, feature flexible network connectivity options, and include ColorCoat technology to enable printing on most papers. Both printers feature standard parallel, serial, and AppleTalk ports. The Phaser 220i adds Novell NetWare and Apple EtherTalk support with an Ethernet option. TCP/IP is also available. (Phaser 220e, $3995; Phaser 220i, $5995) Tektronix, Inc., 26600 S.W. Parkway, PO Box 1000, Wilsonville, OR 97070-1000. 1-800-835-6100.

Books

COMPUTER ETHICS

"The problems created by computers arise from two main sources: From hardware and software *malfunctions* and from *misuse* by human beings," write authors Tom Forester and Perry Morrison, in the preface to the second edition of *Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing.* Arguing that society has become vulnerable to human misuse of computers, this book looks at computer crime, software theft, computer viruses, invasion of privacy, and the computerized workplace. This new edition has been updated with new anecdotes, new revelations, and lively discussion of the current ethical, social, and professional issues arising from the computer revolution. ($14.95, paperback; $30, cloth) The MIT Press, 55 Hayward St., Cambridge, MA 02142. 1-800-356-0343.


SECOND EDITION
COMPUTER ETHICS
CAUTIONARY TALES AND ETHICAL DILEMMAS IN COMPUTING
TOM FORESTER AND PERRY MORRISON

Continued...

Multimedia Selection

CBE SYSTEMS
Your System, Our Support
Your Price, Our Guarantee
價錢公道•眞材實料

Warranty
1 Year Parts
5 Years Labor

TOLL FREE
1 (800) 878-8839
Tech. Support:
(510) 887-1678

AMD 486DX-40 VLB System
(20% faster than Intel 486DX-33)
- 245MB Hard Drive
- 4MB RAM
- Math co-processor built-in
- Internal 8K Cache
- External 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32 bit VLB IDE I/O card
- 32 bit VLB SVGA 1MB card
- 14" SVGA 1024x768 NI monitor
- Minitower case
- 101 Enhanced keyboard
- Microsoft compatible mouse
- Cooling Fan

Special!! $1195

386DX-40 Economy System
- 130MB Hard Drive
- 4MB RAM
- 1.44MB Floppy Drive
- Super IDE I/O Card
- SVGA Card
- 14" SVGA 1024x768 monitor
- Minitower Case
- 101 Enhanced keyboard
- *3 Button Mouse + Mouse Pad*
- *Surge Protector*

$789

AMD 486DX2-66 VLB Home Business System
- *340MB Hard Drive*
- 4MB RAM
- Math co-processor built-in
- Internal 8K Cache
- External 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32 bit VLB IDE I/O card
- 32 bit VLB SVGA 1MB card
- *15" SVGA 1024x768 NI monitor*
- Minitower Case
- 101 Enhanced keyboard
- Microsoft compatible mouse
- Cooling fan

Lowest Price!! $1485

Multimedia Blow-Out Sale

Children's CD Bundles
1. Mario Is Missing
2. Dictionary For Children
3. Harry's Story book
4. Mother Goose
5. U.S. Atlas

$59

Entertainment CD Bundles
1. Encyclopedia
2. Animal Encyclopedia
3. World Atlas
4. U.S. Atlas
5. Mavis Beacon's Typing
6. Chessmaster 3000

$65

Deluxe CD Bundles
1. Compton's Encyclopedia
2. Return to Zork
3. Kodak Photo CD Access
4. Mayo Clinic Family Health Book

$73

486SLC2-66 Multimedia Entertainment System
- 245MB Hard Drive
- 4MB RAM
- Internal heat sink
- Math co-processor built-in
- Internal 16K Cache + external 64K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32 bit VLB IDE I/O card
- 32 bit VLB SVGA 1MB card
- 14" SVGA 1024x768 NI monitor
- Minitower case
- 101 Enhanced keyboard
- *Mitsumi Double-Speed CD ROM Drive*
- SoundBlaster Compatible sound card
- *2 Super Bass Speakers + Games + Joystick*
- *6 CD titles (Encyclopedia, atlas, and more)*
- Microsoft compatible mouse

Special!! $1395

Mitsumi Double Speed CD ROM Drive
- 250ms Access Time
- 300kb Data Transfer Time
- Kodak Photo CD Compatible

$173

Toshiba Multi-Spin CD ROM Drive
- 200ms Access Time
- 300kb Data Transfer Time
- Kodak Photo CD Compatible

$339

NEC 4X Quad-Speed CD ROM Drive
- 195ms Access Time
- 600kb Data Transfer Time
- Kodak Photo CD Compatible

NEW $899

Multimedia Deluxe Double Speed Upgrade Kit
- Mitsumi Double-Speed CD ROM Drive
- SoundBlaster Compatible Sound Card
- 2 Super Bass Speakers
- Quickshot Fast Joystick
- Karaoke Compatible Microphone
- 6 CD Titles
  1. Encyclopedia
  2. Animal Encyclopedia
  3. World Atlas
  4. US Atlas
  5. Mavis Beacon's Typing
  6. Chessmaster 3000

Special!! $289

Multimedia Deluxe Triple Speed Upgrade Kit
NEC Triple-Speed CD ROM Drive
CD Deluxe Bundles A or B .

Bundle A	Bundle B
Encyclopedia	Mario is Missing
Animals	U.S. Atlas
U.S. Atlas	Child Dictionary
Chessmaster	Harry Story Book
M.B. Typing	Mother Goose

Special!! $435

CD Titles in Stock

Prices subject to change w/o notice • Not Responsible for typographical errors • Prices Reflect Cash Discounts

VISA MasterCard

San Francisco
210 Columbus Street
San Francisco, CA 94133
Tel: (415) 956-8484
Fax: (415) 956-7279
MON - SAT

Hayward
3514 Arden Rd.
Hayward, CA 94545
Tel: (510) 887-8686
Fax: (510) 887-8168
MON - FRI

Southern California
602 N. Hathaway Ave. #C
Monterey Park, CA 91754
MON - FRI
DISPATCH ONLY

Central U.S.A.
603 Westward Court #2
Wisconsin, WI 53714
Tel: (608) 244-6269
Fax: (608) 244-6269

HAVE QUESTIONS...CALL THE TECHNICAL EXPERTS

TRUST US. . . WE'RE DIFFERENT

Apple ZENITH IBM COMPAQ Macintosh
EPSON TOSHIBA HEWLETT PACKARD ALR

Vertical Integration Specialists

GIGABYTES

Quality Service & Upgrades • On-Site & In-Shop Service

® Registered trademarks are by the respective companies

TEL: (510) 440-8032 FAX: (510) 440-9099

Monthly Systems Special

*386DX-40/64K ISA	$ 904
*486DX-33/128K VLB	$1116
*486DX-50/128K VLB	$1269
*486DX2-66/128K VLB	$1304
*486BL3x-75/256K VLB	$*CALL*

System Configuration

Motherboard with CPU
External Cache
4MB70ns RAM
IDE Controller w/ 2S/1P/1G
1.2&1.44MB Floppy Drive
200MB Fast Hard Drive
101Keys Enhanced Keyboard
512K Video Card
SVGA 14" .28dp Color Monitor
Mini-Tower Case& Power Supply
3 Buttoms Mouse and Pad

Upgrade Options

	ADD
.256K Cache	$ 30
.250MB Hard Drive	$ 21
.340MB Hard Drive	$ 73
.420MB Hard Drive	$133
.540MB Hard Drive	$269
.VESA IDE Controller	$ 20
.1MB Video Card ISA	$ 20
.1MB Video Card VESA	$ 55
.Genoa VLB Video Card 1MB	$ 60
.Orchid Fahrenheit VLB 1MB	$120
.Diamond Stealth24VLB 1MB	$120
.14" Non-Interlaced Monitor	$ 20
.15" Non-Interlaced Monitor	$107
.Logitech Mouseman Serial	$ 39
.Microsoft 2 Buttoms Mouse	$ 35
.MS-DOS 6.2 & Windows 3.1	$ 90

VESA Local Bus Notebook Specials

.128 KB External Cache
.4MB RAM (Expandable to 20MB)
.32-Bit VESA Local Bus Video
.1.44MB Floppy Drive
.200MB Hard Drive
.2 Type II PCMCIA Slots
.1 Serial and 1 Parallel Ports
.External CRT and Keyboard Ports
.Built-in Trackball
.Carrying Case
.Battery Adapter

*****UPGRADES*****	*ADD*
.Microsoft DOS v 6.2	$ 45
.4MB RAM	$220
.250MB/340MB	$30/ $150
.Additional Battery	$ 80
.PCMCIA Fax/Modem	
-Type II, 96/48/24	$120
-Type II, 14.4K/14.4K	$260
.Docking Station	$480
-2 32-Bit VESA Local Bus slots	
-2 Serial, 1Parallel, 1Video Port	

Model	MONO	Dual Scan Color	Active Matrix Color
486DX-33 MHz	$1840	$2370	$3270
486DX2-50 MHz	$1855	$2385	$3315
486DX2-66 MHz	$2035	$2565	$3595

Multimedia Packages

Deluxe Combo A**................................* ***$ 370

.16 Bit Sound Card (Media Vision OEM)
.NEC CDR-210 CD-ROM
Double Speed, SCSI Interface
.Labtec Magnetic Shielded Speakers (CS150)
.5 CD Titles : -Compton's Encyclopedia MPC
-World Atlas -US Atlas -Chess Master 3000
-Mavis Teaches Typing

Deluxe Combo B**................................* ***$ 350

.Sound Blaster Pro Deluxe
.Panasonic CD-562 CD-ROM
Double Speed, Photo CD Compatible
.Labtec Magnetic Shielded Speakers (CS150)
.5 CD Titles : -Tool Works Encyclopedia MPC
-World Atlas -US Atlas -Chess Master 3000
-Mavis Teaches Typing

CD ROM Special

Mitsumi FX001D $180
250ms Access; 300KB Transfer
AT Bus w/ Controller

Panasonic 562 $175
320ms Access; 300KB Transfer
Photo-CD Comp.(w/o Controller)

.*Texel DM3028 Int.* $279
240ms Access; 330KB Transfer
SCSI Interface

.*Toshiba XM3401 Int.* $349
200ms Access; 330KB Transfer
SCSI Interface; 256K Cache buffer

Faxes & Modems

CALCOM

* 5 years manufacture warrenty

Fax / Modem 96/48/24	Internal/External	$ 38/ $ 60
Fax / Modem 14.4K/ 14.4K	Internal/External	$107/ $150

ENCY
SYSTEMS

LINDEN
Micro Tech

CD-ROM Software Titles

20th Century Video	$16	Family Choice/Britannica DOS	$16	Mozart Music	$14
A Christmas Carol	$18	Family Doctor DOS	$16	Our Solar System	$13
Animals v1.0 DOS	$14	Great Cities Vol 1 & Vol2	$16	Peter & Wolf MPC	$12
Annabel's Dream-Egypt	$65	Guinness MPC Disk of Record '93	$17	Playing with Language	$19
Arthorware Star for Windows	$36	Goldilocks & the Three Bears	$15	Presidents DOS	$65
Arthue's Teacher Trouble	$19	Interactive Story Time	$15	Publish It 2.0 DOS	$17
Atlas Pack v3.1 World/US	$17	Island Design 2CD	$12	Quick Toons	$20
Barron's College Guide	$20	Jets &Prop 2CD	$18	Return to Zork	$20
Battle Chess DOS	$15	King's Quest V DOS	$13	Secret Weapons	$13
Beauty & Beast MPC	$12	Language of the World MPC	$15	Sleeping Beauty	$13
Bring the World to Your Senses	$10	Library of the Future 1st rev. DOS	$42	Space Quest IV (Sierra DOS)	$17
Carmen San Diego -World DOS	$18	Loom/Book of Pattern by Lucas film	$14	Star War Battle Chess	$17
CD Deluxe Pak	$23	Lotus 123 v 3.1 MPC	$55	Stellar 7 DOS	$13
CD Game Pak II/III	$15 /$20	McMillian Dictionary for Children	$17	Supertoons	$20
CD Storytime	$14	Majestic Place	$14	The 7th guest	call
Children Storydisk & Colorbook	$20	Mario is Missing Deluxe	$15	Toolworks Encyclopedia	$36
Compton's Encyclopedia MPC	$50	MPC Audubon's Mammals	$14	US Atlas V4.0 MPC	$15
Compton Interactive Encyclopedia	$80	Mayo Clinic Family Health	$16	US History DOS	$15
Dictionaries and Languages	$12	Media Clips 4CD	$40	USA Wars	$23
Dictionary of the Living World	$23	Microporse Game Pak 4CD	$17	Wild Places	$11
Dino/Space Advanture Combo	$28	Microsoft Bookshelf MPC	$45	Willy Beamish	$17
Dinosaur Encyclopedia	$18	Microsoft Works MPC	$45	Who Killed Sam Rupert	$20
Dr's Book of Home Remidies	$15	Midi Alive	$14	Wing Commande	$14
Electronics Home Library	$20	Mixed-up Mother Goose MPC	$13	Wizard	$11

Network Services

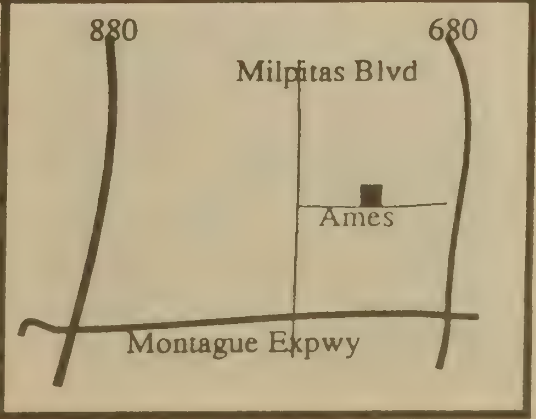
Networking peripherals and systems;
File servers & workstations configuration;
Networking hardware & software;
Network design, , Installation, Trainning,
Maintenance contract, Professional installation.

Novell Certified NetWare Engineer

Linden Micro Tech

(408) 262-8200
FAX (408) 262-8476
755 Ames Ave, Milpitas

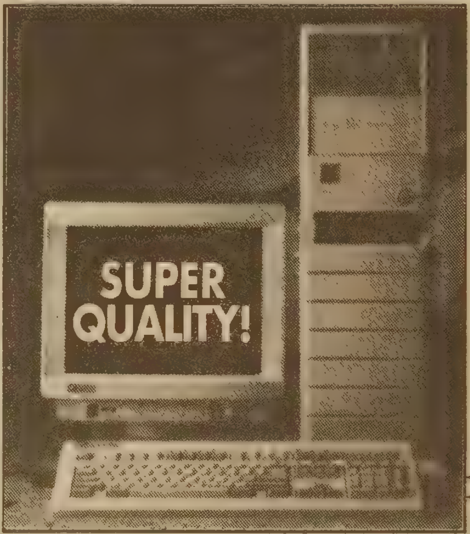
-Prices reflect cash discounts
-Price and availability subject to change without notice
-All systems include one year parts & labor warrenty
-All returns subject to 15% restocking fee and cover only Linden Micro Tech Corp. brand computer, excludes peripherals & software. No refunds/returns after 30 days.
-Not responsible for typographical errors.



HITRON SYSTEMS

STOP

SEARCHING AROUND! COME TO HITRON SYSTEMS..WE ARE HAVING A NEW YEARS SALE!



A SUPER BUY FOR SUPER QUALITY! HIGH PERFORMANCE VESA LOCAL BUS SYSTEMS USING

AMI OR MICRONICS OR NICE

MOTHERBOARDS

	SYSTEM	
Motherboard	486DX2-66	486DX-33
AMI	$1725	$1545
MICRONICS	$1645	$1435
NICE	$1475	$1229
FOR EISA VLB PLEASE CALL!!!		

INCLUDES:

- AMI, Micronics or Nice Motherboard
- 256K Cache
- 4 MB RAM
- 120 MB IDE Hard Drive
- 32 Bit IDE Controller Card
- 1.2 MB and 1.44 MB Floppy Drives
- 2 Serial/1 Parallel Ports
- 14" SVGA .28dp Monitor
- 32 Bit SVGA 1MB Display Card
- Mid-Tower Case w/230Watt PS
- 101 Enhanced Keyboard
- FOR OTHER OPTIONS...CALL

ANNOUNCING...PEER-TO-PEER LANtastic NETWORK FOR LESS!!

- LANtastic AI Software
- 16-Bit Ethernet Card
- Terminator
- 10 Feet Coax Cable

LAN TIMES READERS' CHOICE 1992

PC MAGAZINE EDITOR'S CHOICE April 14 1992 LANtastic, Version 4.10

LAN MAGAZINE 1992 PRODUCTS OF THE YEAR

AS LOW AS $159 PER NODE

NETWORK SERVICES FROM HITRON COMPUTERS

PERSONAL FINANCING AVAILABLE
*90 DAYS SAME AS CASH (w/o.c.)
*LOW MONTHLY PAYMENTS
*EASY TO APPLY
*FAST CREDIT DECISION
*CALL FOR DETAILS

- ❖ FREE CONSULTATION!
- ❖ DESIGN & INSTALLATION
- ❖ HARDWARE AND SOFTWARE CONFIGURATION
- ❖ SUPPORT AND SERVICE
- ❖ FLAT RATE

90 DAYS SAME AS CASH!

*1 YEAR PARTS WARRANTY
*LIFETIME LABOR & TECH SUPPORT
*NATIONWIDE ON-SITE SERVICE AVAILABLE
*CORPORATE PO'S WELCOME
*CORPORATE LEASING AVAILABLE

Sound Like A Dream? HITRON Will Make It Happen For You!
When We Say We Can Save You Money...We Mean It!
When We Say High Quality, Low Price Is Our Goal...We Do It!
Don't Believe It? Just Pick Up The Phone And Give Us A Call.
We Will Match Or Beat Any Of The Advertised Prices!

AFFORDABLE *Green* PCI *Systems*

PCI 486DX2-66 MHz
$1625
PCI 486DX-50 MHz
$1585
PCI 486DX-33 MHz
$1415
PCI 486SX-25 MHz
$1255

- 256K Cache Expandable to 512K
- 4 MB RAM Exp to 128K
- 1.2 MB FDD
- 120 MB IDE Hard Drive
- PCI IDE Controller Card
- I/O 2 Serial/1 Parallel/1 Game
- PCI SVGA Card w/1 MB Exp to 16 MB
- 14" SVGA .28dp Monitor
- 101 Enhanced Keyboard
- Mid Tower Case

HOT!!! *Green Pentium* PCI

- Intel 60 MHz Pentium CPU
- 256K Cache Expandable to 512K
- 8 MB RAM
- 1.2 & 1.44 MB FDD
- 340 MB IDE Hard Drive
- PCI IDE Controller Card
- I/O 2 Serial/1 Parallel
- Diamond Viper PCI Display w/2 MB
- 15" NSVGA .28dp Monitor
- 101 Enhanced Keyboard
- Mouse
- Mid-Tower Case

$3086

HITRON *High Performance Systems*

486DX2-66 MHz
$1250
486DX-50 MHz
$1210
486DX2-50 MHz
$1070
486DX-40
$1030
486DX-33 MHz
$1050

- 128K Cache Expandable to 256K
- 4 MB RAM Exp. to 32 MB
- 1.2 MB FDD
- 120 MB IDE Hard Drive
- SVGA Display Card w/512K RAM
- 14" SVGA Color Monitor w/.28dp (1024x768)
- Mini-Tower Case W/200W PS
- 2 FDD/2 HDD IDE Controller Card
- I/O 2 Serial/1 Parallel/1 Game
- 101 Enhanced Keyboard
- **Upgrade To ISA VESA Local Bus....................add $100**
- **Upgrade To EISA Local Bus..........................add $135**

LOW COST IBM SLC VLB System

486SLC-66
$775
486SLC-50
$715

- IBM Made Motherboard
- 64K Cache Expandable to 128K
- 4 MB RAM
- 170 MB Hard Disk Drive
- 32 Bit VLB Controller Card
- 32 Bit VLB Display Card
- 101 Enhanced Keyboard
- Mouse
- Mini Tower Case

OPTIONS

- **Math Co-Processor 66+..............................$50**
- **Math Co=Processor 50+..............................$50**

Blowout SPECIALS

486SX-33 MHz
$876
486SX-25 MHz
$845
386DX-40 MHz
$805

- 128K Cache Expandable to 256K
- 4 MB RAM Exp. to 32 MB
- 1.2 MB FDD
- 120 MB IDE Hard Drive
- SVGA Display Card w/512K RAM
- 14" SVGA Color Monitor w/.39dp (1024x768)
- Mini-Tower Case W/200 PS
- 2 FDD/2 HDD IDE Controller Card
- I/O 2 Serial/1 Parallel/ 1 Game
- 101 Enhanced Keyboard

HITRON NOTEBOOKS

386SLC-25 MHz (MONO) $1395
486SLC-25 MHz (MONO) $1595
486DX-33 MHz (MONO) $1795
486DX2-66 MHz (MONO) $1995
486DX-33 MHz COLOR(ACTIVE/PASSIVE) ...$3195/2495
486DX2-66 MHz COLOR (ACTIVE/PASSIVE) ..$3395/2695

Includes:
- 4 MB RAM
- 200 MB Hard Drive
- VGA Display
- I/O 1 Serial, 1 Parallel Ports
- Carrying Case
- Built-In Trackball Mouse
- MS DOS 6.0 w/Manual

(120 MB Hard Drive...Less $120)

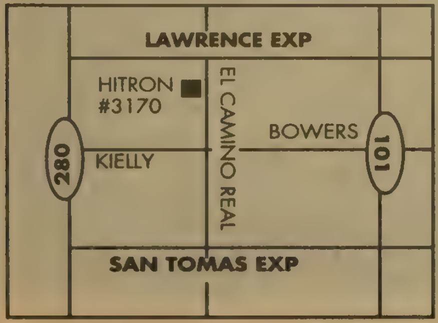
MULTIMEDIA

CREATIVE
CREATIVE LABS, INC.
Panasonic
$359
Creative Labs Dual Speed CD-ROM by Panasonic
Sound Blaster Pro Deluxe (OEM)
Two Speakers
Software Titles:
- Kings Quest IV
- Microsoft Bookshelf
- Mixed Up Mother Goose
- Sound Library

PRO AUDIO
SPECTRUM 16
$385
LMSI/Philips Dual Speed Drive
Media Vision Spectrum 16
Two Speakers
Software Titles
- Kings Quest IV
- Microsoft Bookshelf
- Mixed Up Mother Goose
- Sound Library

CREATIVE
CREATIVE LABS, INC.
Panasonic
$399
Creative Labs Dual Speed CD-ROM by Panasonic
Creative Labs 16 Basic
Software Titles:
- Monkey Island
- Microsoft Bookshelf
- Animals/San Diego Zoo
- Halo Desktop Imager

NEC
$605
NEC Triple Speed Drive
Audio Cable
Two 15 Watt Speakers
Software Titles:
- Monkey Island
- Microsoft Bookshelf
- Animals/San Diego Zoo
- Halo Desktop Imager



FOR MORE OPTIONS OR INFORMATION PLEASE CALL:

HITRON SYSTEMS

HITRON SYSTEMS
3170 EL CAMINO REAL
SANTA CLARA, CA 95051
(BETWEEN LAWRENCE EXP. & SAN TOMAS EXP.)
TEL: (408) 261-2695 • Fax: (408) 261-2698
MON-FRI: 9-6 SAT: 10:30-4:30

• All Special Items Order Non-Refundable • Prices Subject To Change w/o Notice • Not Responsible For Typo's • Price Reflects Cash Discount

ELECTRONIC JOB SEARCH REVOLUTION

The Electronic Job Search Revolution: Winning With the New Technology That's Reshaping Today's Job Market gives a tour of the electronic job search world. It shows job seekers how to take advantage of new online technologies, giving employers everywhere instant access to their resume. Topics covered include computer resume services, employer's automated applicant systems, computer-assisted interviewing, and online career help. Along with descriptions of each service, authors Joyce Lain Kennedy and Thomas J. Morrow discuss the pros and cons, and what the future holds. ($12.95) Wiley & Sons, Inc., 605 Third Ave., New York, NY 10158-0012. (212)850-6000.

HARVARD GRAPHICS 2 FOR WINDOWS

Harvard Graphics 2 for Windows: Visual QuickStart Guide, by Steve Sagman, will help new users learn quickly from scratch. Following the QuickStart series' format of "more pictures, less talk," the book's easy, eye-catching visuals show users how to create presentations in the simplest ways possible. Every tool and feature is explained in a step-by-step manner. New users will learn the vital concepts and underpinnings, while veterans will find plenty of new tips and tricks to enhance their work. ($14.95) Peachpit Press, 2414 Sixth St., Berkeley, CA 94710. 1-800-283-9444.

REVIEWS

Game Reviews

MIG29

List Price: $57.99
Published By: Spectrum Holobyte
For: PC (12MHz, 286, 1MB RAM, DOS 5.0, VGA, optional mouse/joystick, Adlib/Roland/SoundBlaster)
Reviewed By: Fred Haslam

Mig29 is terribly complex, but then again so is the actual aircraft. Spectrum Holobyte has striven to the utmost for realism and I believe they have succeeded. Not only do you have control of a dozen weapon systems, three detection systems, two defense systems, radio, throttle, afterburner, targetting, and tracking; but you also get to remove the wheel blocks.

From my reading on military aircraft, the primary characteristic of the Mig29 is its speed. And it is indeed fast. It takes many miles to do a gentle bank. I frequently overshot ground targets or did a nose-plow while lining up a shot. As an experiment I reached 70,000 feet flying straight up.

The campaign game looks very promising and is touted as the highlight of Mig29. You are the base commander in charge of thirty pilots and eighteen aircraft. You receive information and mission instructions, then respond by assigning craft and pilots to missions. Your success and failure influence the overall ground campaign, displayed on a regional map. I really wanted to give the campaign a try, but had to give up due to my poor piloting. On the first mission I shot down two friendly craft and intersected a small hill.

There are two components to the Mig29 Interface: airplane and game controls. The airplane controls are complex, but easily learned after you get into Red Flag—the air combat school. The game controls and 500-page manual are best described as Byzantine. I had to search through two chapters front to back before finding proper takeoff instructions in the last paragraphs of chapter five. You can skip that mess and just play "Instant Action," but you will miss most of the game. The graphics are average for a flight simulator where drawing speed is emphasized. The sound was great at indicating near-misses, engine malfunctions, radio chatter, et al.

I recommend Mig29 to flight simulator fanatics and to people who want to become FSFs. The more I played, the better I became. The same will be true for you. (Spectrum Holobyte, Inc., 2490 Mariner Square Loop, Alameda, CA 94501. 510/522-1164)

COMPANIONS OF XANTH

Designed By: Michael Lindner
Published By: Legend Entertainment Co.
For: IBM PC compatible (hard drive, 640K RAM, Microsoft mouse, VGA/VESA compatible SVGA, Adlib/SoundBlaster)
List Price: $46.99
Reviewed By: Fred Haslam

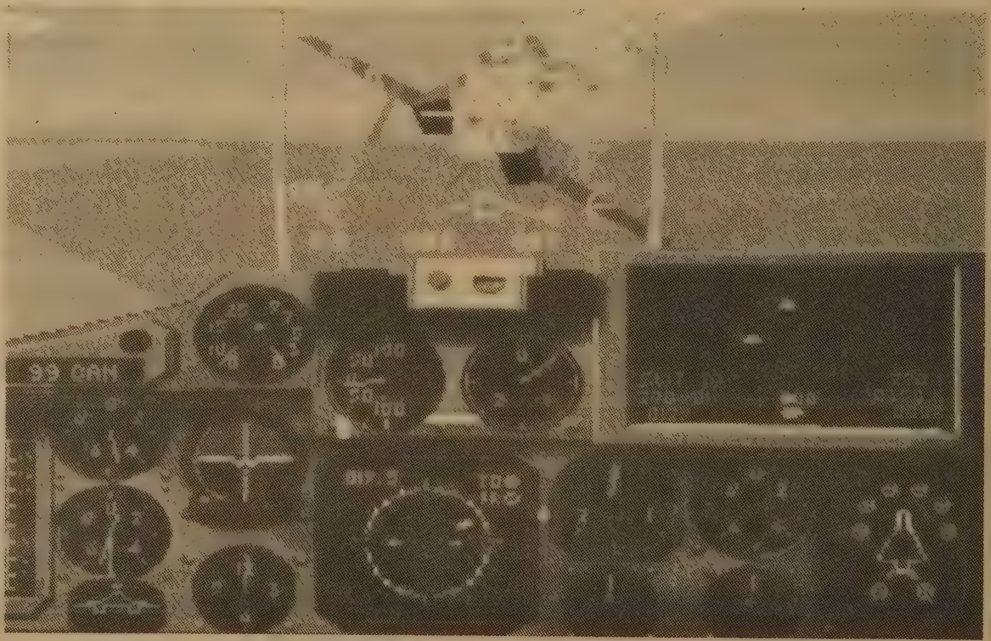
Xanth fans rejoice! The latest Xanth novel *Demons Don't Dream* has arrived and is the template for the first Xanth computerized adventure: Companions of Xanth. As a matter of fact, the game contains a copy of the book. But don't worry; while the book presents the same story and the same problems, all the solutions are different. You do not need the book to finish the game. All you need is an IBM PC compatible and a mind for puns.

Puns you say? Those familiar with the fantasy realm of Xanth (created by PierXANTHony) know that puns come to life in this medieval world. Cherry bombs grow on cherry trees, shoes grow on shoe trees, and butter can be found in buttercups. Nightmares ride through the night skies to deliver bad dreams, while Bum Steers moo for cigarettes. If you like puns, you should love Xanth.

I only read enough of the novel to confirm that the solutions were different, but I played the game to the end. The writers are to be commended for dialog. The main character is a smartass who gets lines like: "I'll just scurry off and do my little hero thing," "Hey, I've become very attached to that bucket," and "Yippee! I'm a badass censor douser and I deserve a reward!" It's hard to describe how funny some of these lines are without telling you the whole story.

The game interface is nicely intuitive. Sometimes on a slow machine there is a

Continued on page 332



Below: MIG29 from Spectrum Holybyte

OPEN 7 DAYS A WEEK!

BEST PRICES • HIGHEST QUALITY • GREAT SERVICE

SYSTEM		MB +CPU	BASIC SYSTEM
EISA/VESA		NICE MB	
486DX2-66 (NICE) (2 Slots Local Bus, 3 EISA, 2 ISA)	256K	$646	$811
	128K	636	795
486DX-50 (NICE) (2 Slots Local Bus, 3 EISA, 2 ISA)	256K	601	766
	128K	591	756
486DX-33 (NICE) (2 Slots Local Bus, 3 EISA, 2 ISA)	256K	461	626
	128K	596	616
ISA			
486DX2-66 (2 Local Bus)	256K	609	774
	128K	599	764
486DX-50 (2 Local Bus)	256K	571	758
	128K	430	748
486DX-33 (2 Local Bus)	256K	440	605
	128K	430	595

SYSTEMS		MB +CPU	BASIC SYSTEM
		AIR MB	
EISA/VESA			
486DX2-66 (AIR) (3 Slots Local Bus)	256K	$764	$929
	128K	754	919
486DX-50 (AIR) (3 Slots Local Bus)	256K	720	885
	128K	710	875
486DX-33 (AIR) (3 Slots Local Bus)	256K	585	750
	128K	575	750
ISA			
486DX2-66 (AIR) (3 Slots Local Bus)	256K	560	725
	128K	550	715
486DX-50 (AIR) (3 Slots Local Bus)	256K	520	685
	128K	510	675
486DX-33 (AIR) (3 Slots Local Bus)	256K	380	545
	128K	370	535

SYSTEMS		MB +CPU	BASIC SYSTEM
		GENOA MB	
486DX-50 (GENOA) (3 Slots Local Bus)	256K	$515	$673
	128K	505	663
486DX-33 (GENOA) (3 Slots Local Bus)	256K	370	535
	128K	360	525
486DX-50 (3 Slots Local Bus)	256K	483	644
	128K	473	634
486DX-33 (3 Slots Local Bus)	256K	345	519
	128K	335	509
486DX-50 (2 Slots Local Bus)	256K	500	665
	128K	490	655
486DX-33 (2 Slots Local Bus)	256K	340	505
	128K	335	495
386-40	128K	99	264

250 MB
CONNER Hard Disk
$199

BASIC SYSTEM INCLUDES: 486/386/286 Motherboard • 486/386/286 CPU • 1 MB RAM • 101 Keyboard • 1.2 MB or 1.44 MB Floppy Drive
Baby AT or Mini Tower Case with Power Supply • 2FDD & 2HDD Controller Card w/Cable

REPAIR & UPGRADE YOUR SYSTEM $25 FLAT FEE ON LABOR!

345 MB
MAXTOR Hard Disk
$249

1 YEAR WARRANTY PARTS & LABOR ON SYSTEMS

CASE W/POWER SUPPLY

Mini Tower Case w/200W PS	$41
DeskTop Case w/200W PS	41
Medium Tower Case w/230W PS	60
Full Tower Case w/250W PS	80

MONITORS

14" Mono	$75
14" VGA Mono	100
14" Super VGA 1024x768 .39	186
14" Super VGA 1024x768 .28 Int	215
14" Super VGA 1024x768 .28 NI	225
14" Soco Super VGA 1024x768 .28 Int	215
14" ViewSonic 6E NI	274
15" ViewSonic	425
15" NEC 3FGE NI	569

MOTHERBOARDS W/O CPU

EISA	
486DX2-66, DX-50, DX-33 (3 Slots Local Bus (AIR) w/256K)	$335
486DX-33/50 Mini EISA 256K (NICE) (2 Slots LB, 3 EISA, 5 ISA, Overdrive)	211
ISA	
GENOA	
486DX2-66/DX-50/DX-33 (3 Slots Local Bus (Genoa) w/256K	$120
486DX2-66, DX-50, DX-33 (3 Slots Local Bus (AIR) w/256K	120
w/128K	110
486DX2-66/DX-50/DX-33 (2 Slots Local Bus, 2-72 Pin, 8-36 Pin Memory Slots) w/256K	115
486DX2-66, DX-50, DX-33 (2 Slots Local Bus) w/256K	90
w/128K	80
IBM	
IBM 486SLC2-66/64C VLB w/387-33 w/CPU VLB Motherboard	$278
IBM 486SLC V-25/50 w/387-25 w/CPU VLB	265
386-40 MHz w/128K	73
386-SX40 w/CPU	71

FLOPPY & HARD DRIVES

FLOPPY DRIVES	
Teac 2.88 MB FDD	$85
Teac 1.2 MB FDD	44
Teac 1.44 MB FDD	36
MAXTOR	
7131A 130 MB 15ms	$165
7245A 245 MB 15ms	212
7345A 345MB	250
SAMSUNG	
120 MB 16ms	$154
250 MB 16ms	199
WESTERN DIGITAL	
212 MB	$190
340 MB	255

KEYBOARDS/MOUSE

101 Keyboard	$15
MaxiSwitch 101 Enhanced	22
Chicony	27
Keytronics 101 Enhanced	26
Trackball	20
Logitech Mouseman	34
Microsoft Mouse	34
3 Button Microsoft Compat	8

VIDEO CARDS

MGP Card	$11
VGA 800x600 256K	25
SVGA 1024x768 512K	35
SVGA 1024x768 1 MB	52
Windows Accelerator w/1 MB	55
ATI Ultra Plus 2 MB DRAM	199
ATI Ultra Pro 2 MB VRAM VL	295
Diamond Viper VLB 2 MB	340
Diamond Stealth 1 MB VL VGA	136
Genoa 8500 VL	89
Genoa Phantom W32I 2 MB	175

CONTROLLER CARDS

IDE 2FDD/2 HDD 1:1	$12
IDE VL FDD/2 HDD 1:1	26
SCSI Controller	48
SCSI Ultrastor 34F VLB	265
SCSI Ultra 24F (EISA) Future Domain	340
SCSI DTC 3290 AS (EISA)	380
SCSI DTC 3280K	105
SCSI Adaptec 1542C	168
DC200N ISA 512K On Board (Promise)	110
DC200 ISA 512K/16M (Promise)	97
DC420 VLB 512K On Board (Promise)	105
DC4030 VL 512K/16M (Promise)	118

NETWORK

Ethernet	
NE 2000 16 Bit	$35
NE 2000 16 Bit Software Config.	37
NE 2000 Combo	41
NE 2000 16 Bit Combo Soft. Config.	43
Arcnet LANCard	
8-Bit Star Topology	$33
16-Bit Star Topology	50
8-Bit Bus/Star/BNC/UTP	38
16-Bit Bus/Star/Coax/UTP	38
8-Port Coax Active Hub	149
4-Port External Passive Hub	14

MODEM CARD/FAXES

2400 Internal Modem	$25
Fax/Modem (9600Fax/2400 Modem)	38
14.4/14.4 Fax/Modem	110

SOUND CARDS

Sound Blaster Deluxe	$73
Sound Blaster Pro Deluxe	103
Sound Blaster 16 Basic	126
Diamond Sonic Sound Card	215
Media Vision Pro Audio Spectrum 16	129
Deluxe Speakers	9

MISCELLANEOUS

Super I/O	$14
AT I/O Card (2S/1P/1G)	10
120 MB Tape Back-Up	129
250 MB Tape Back-Up	145
Tape Cartridge	18
JT-10 Trakker 120 MB Ext	285
ST-20 Trakker 240 MB Ext	322
PT-25 Power Tape 2.4 GB Int	950
PT-50 Power Tape 4 GB Int	1464

DEALER INQUIRIES WELCOME

SONIC COMPUTER

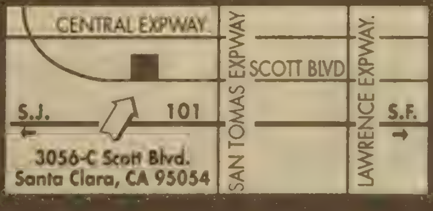
"ALL THE BEST FOR WAY LESS"

(408) 727-4362
Fax: (408) 727-5528
3056-C Scott Blvd.
Santa Clara, CA 95054

OPEN 7 DAYS A WEEK
MON-FRI: 9-6PM
SAT/SUN: 10-5PM

Prices Subject To Change w/o Notice •Cashiers Check •Money Order •Visa/Master/ATM Accepted

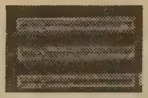
DEALER INQUIRIES WELCOME



Customize to your needs

with 26 Pages Of Options to Add On, You will have it your way.

NCA's PCI LineUp



WHY PCI?

Processor Independent.
Fewer incompatibility & reliability Problems.
Scalable throughput 32-bit/64-bit backward compatibility.
5V and 3.3V supported on an edge connector.
Auto Configuration features.
Bus mastering, concurrency & linear burst transfer

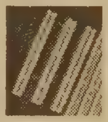
ALEXIS 560PCI

$1599

Pentium 60Mhz PCI Tower Super System

Based on NCA's High Quality
Premier/PCI MotherBoard
MADE IN IRELAND

- Itegrated SMC37C665 Super I/O Chip Providing: Two FIFO Hi Speed Serial Ports/ 1 Parallel Port Bi-Directional
- Three PCI Local Bus SlotsProviding a high Bandwidth Data Path
- Five ISA Slots (Includes 1 Shared ISA/PCI Slots)
- Intel Mercury PCI Chip Set
- 256K Direct Mapping, write back second level Cache
- Intel Pentium 60MHz Processor
- Integrated PCI IDE port
- Teac 1.44M and 1.2M Floppy Drives
- Heat Sink for CPU
- Mitsumi High Quality Keyboard
- 0Mb RAM up to 128MB (72Pin Simms)
- NCA's Special 9bay Tower Case
- 250W UL Power Supply



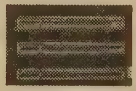
Above Pentium System with VLB (no PCI)...$1599

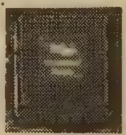
ALEXIS 400PCI

PCI Local Bus 486DX Tower Super Systems

Based on NCA's High Quality
NCA's PCI/i-486MotherBoard

- Three 32bit PCI Slots
- Four 16bit ISA Slots
- Intel PCI 486 Saturn Chipset
- 256K Cache (up to 512K)
- Integrated NCR 53C810 32 bit PCI SCSI Controller. Supports upto 10Mb/sec accros Fast SCSI bus
- 0MB Memory Upto 128MB
- ZIF Socket for future upgrade
- Integrated Hi-Speed Serial Ports/1Parl.
- Teac 1.44M or 1.2M Floppy Drives
- Heat Sink for CPU
- Mitsumi High Quality Keyboard
- NCA's Special 9-bay Tower Case
- 250W UL Power Supply





PCI-486DX33 System	$799
PCI-486DX2-50 System	$859
PCI-486DX2-66 System	$989

ALEXIS SERIES
Compare QUALITY & VALUE

On March of 1993, We introduced our Alexis Series named after my 1st child, Alex. Since then, thousands of systems have been sold all over the world. Today, you can expect to find the same Superior quality built product that holds my child's name. It's what I expect from my employees towards my customers, and my son.

Tony G.
President

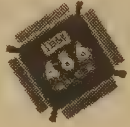
ALEXIS 462VL

$539

486SLC-2/66MHz VESA Medium Tower

- Alaris Motherboard, Manufactured by IBM
- IBM 486SLC-2/50MHz CPU
- 2 Local Bus 32-Bit Slots
- 7 16-Bit Slots, 1 8-Bit Slot
- 128K Cache
- Medium Tower with 250W UL power Supply
- TEAC Floppy Drive 1.2 or 1.44
- DTC VLB IDE Controller 2FD/2HD
- I/O: 2 serial, 1 Parallel, 1 Game
- 101 Mitsumi Keyboard
- Clock & Calender
- 0MB RAM (up to 16MB)

(ADD $30 FOR CO-PRO)



Alexis 466VLe

$939

486DX2-66MHz EISA/VESA/ISA Tower Super Systems

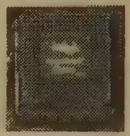
Based on NICE™ motherboard

- NICE 486DX EISA/ISA/VESA board
- Intel 486DX2/66
- 0MB up to 128MB (30-Pin Simms)
- ZIF Socket for upgrade
- MED Tower 250W UL Special Case
- TEAC 1.44 or 1.2
- Mitsumi 101 Keyboard
- IDE with I/O controller
- 256K Cache upto 1MB

Alexis 4VL Systems

Featuring
ELITEGROUP™
3 VESA LOCAL BUS SLOTS BOARD
Standard on our Alexis 486-DX Series

- NCA's High Quality 9-Bay Tower
  - 4 Exposed 5.25" Bays
  - 2 Exposed 3.5" Bays
  - 3 Hidden Bays
- 250W UL Approved Power Supply
- Intel 486 Processor
- High Quality Well Designed Case
- 8 Slots Motherboard
- 3 VESA Local Bus Slots
- ZIF Socket for Future Upgrade of CPU to Pentium Over Drive
- 128K Cache (to 256K)
- TEAC Floppy Drive 1.2 or 1.44
- 101 Mitsumi Keyboard
- DTC VLB IDE Controller 2FD/2HD
- I/O: 2 serial, 1 Parallel, 1 Game
- 1 Year Warranty on Parts & Labor



Alexis 433VL

$599

486DX-33MHz VESA MED TOWER SYSTEM

Alexis 455VL

$679

486DX2-50MHz VESA MED TOWER SYSTEM

Alexis 466VL

$799

486DX2-66MHz VESA MED TOWER SYSTEM

Now you can LEASE Your Custom Built Computer, or Any Product Upgrades from NCA.

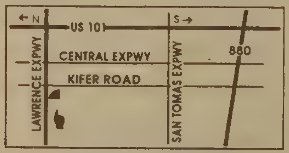
Our Corporate Dept. will tailor the lease to your needs.

Call (408) 522-8672

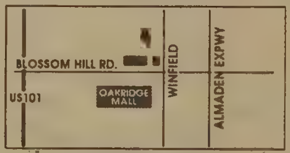
NCA Computer Products
Your Computer Product SUPERMARKET

PURCHASE ORDERS

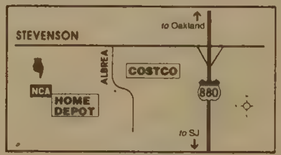
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

NCA's *Alexis Systems*

The Answer to Custom Corporate Computing Needs:

With over 1000 add-on options to choose from, You're Guaranteed to get the Perfect Solution

NCA's Computer Systems

FEATURING

American Megatrends

The Highest Engineering & Reliability

MOTHERBOARDS

MICROSOFT WINDOWS COMPATIBLE

MADE IN THE USA

The NCA Advantage for our Corporate Customers:

- *Custom Configurations with the widest selection of options*
- *Competitive Business Leasing*
- *Dedicated Corporate staff*
- *Personal Representative for each account*
- *Huge selection of computer peripherals to choose from*

NCA *CORPORATE*

Dedicated to Serving Purchasing Agents Worldwide.

(408) 522-8672
fax (408) 739-2420

AMI Omni Business Partner

High Performance, Highly Integrated Workstation

American Megatrends

intel inside

NEW!

Slim Line Desktop Case
Integrated VESA Local Bus:
LAN(10Base-T, 10Base-5, 10Base-2 Compatible)
SCSI (SCSI-II & Fast SCSI II Compatible)
SVGA with 1MB DRAM
2 High Speed Serial Ports (16550 UARTs)
1 Parallel Port
1 Floppy Port upto 2.88M
0MB upto 64MB
256K Cache write through/write back
FCC Certified
ZIF UPGRADE SOCKET
Case Spec. 14.7"x15.5"x3.5" (WxDxH)

486DX33 Station
$1449

486DX2-66 Station
$1669

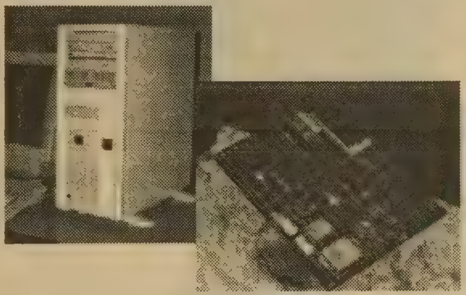
Alexis SV-II Based On:

AMI Super Voyager II

486DX - VESA Local Bus Med Tower System

American Megatrends

intel inside



Two VESA Local Bus Slots
Seven ISA Slots
High Speed UARTs 2-Serial ports, 1 Parallal
2FD/2HD Controller support up to 2.88M
Teac 1.44M or 1.2M Floppy Drive
Mitsumi Quality 101 Keyboard
Medium Tower Case
250W UL Power Supply
0 RAM, Up to 64MB on Board(72PIN)
256K Cache
CPU Heat Sink
AMIDiag 4.0 Diagnostic Package Software

486DX33 System
$859

486DX50 System
$1079

486DX2-66 System
$1139

Alexis III Based On:

AMI Enterprise III Board

486DX - EISA/VESA Local Bus Med Tower System

American Megatrends

intel inside

Eight EISA Bus Slot
Buffered VESA Local Bus Slots
0 RAM up to 256MB on Board (30PIN)
ZIF Expansion Slots
256K Cache
2FD / 2HD I/O Card Support up to 2.88M
Teac 1.44 or 1.2M Floppy Drive
Focus 8000 Extended Keyboard
Medium Tower
250W UL Power Supply
CPU Heat Sink
AMIDiag 4.0 Diagnostic Package Software

486DX33 System
$1169

486DX50 System
$1359

486DX2-66 System
$1399

Alexis IV Based On:

AMI Enterprise IV Board

486DX - EISA/VESA Local Bus Med Tower System

American Megatrends

intel inside

Seven EISA Bus Slot
Two VESA Local Bus Slots
ZIF Expansion Slots
High speed Serial Ports UARTs
2FD / 2HD Card up to 2.88M support
Teac 1.44 or 1.2M Floppy Drive
Focus 8000 Extended Keyboard
Medium Tower
250W UL Power Supply
CPU Heat Sink
AMIDiag 4.0 Diagnostic Package Software

486DX33 System
$1049

486DX50 System
$1239

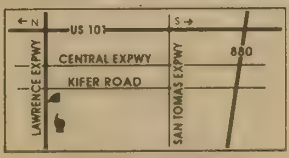
486DX2-66 System
$1299

NCA Computer Products

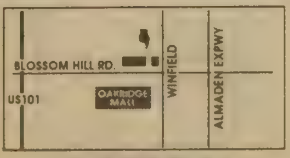
Your Computer Product SUPERMARKET

DISCOVER · AMERICAN EXPRESS · MasterCard · VISA · PURCHASE ORDERS

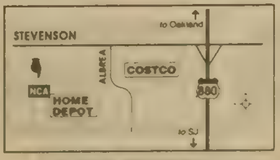
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA *CORPORATE*
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. Fax(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

HARD DRIVES

MORE

CONNER®

IDE

250MB IDE............$219
14ms, CP30254

340MB IDE............$258
13ms, CFA340A

420MB IDE...........$CALL
<12ms, CFS420A LOW PROFILE 3.5" X1"

540MB IDE............$449
<12ms, CFA540A LOW PROFILE 3.5" X1"

SCSI

1.37GB SCSI-II....$914
- 3.5"X1" LOW PROFILE
- 9ms, CP31370

EXTERNAL...$1024

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
340MB	CFA3340	X	X	3.5X1"	$319	$429
540MB	CP30540	256K	12ms	3.5X1"	$494	$614
1.0GB	CFP1060S	256K	<10ms	3.5X1"	$949	$1059
1.37GB	CP31370	256K	9ms	3.5X1"	$914	$1024

TOSHIBA

Superior Quality and Value
5-year factory warranty

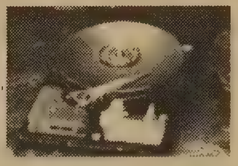
877MB SCSI-II 3.5"
3.5"
12MS
MODEL#MK438FB
5-Yr. Warr.

$639

EXTERNAL $829

WESTERN DIGITAL

Accept only the finest
Caviar



250MB IDE $214
13MS. MODEL#WD2250, 2Yr. Warr.

340MB IDE $269
12MS. MODEL#WD2340, 3Yr. Warr.

420MB IDE $338
13MS. MODEL#WD2420, 3Yr. Warr.

540MB IDE NEW! $459
12MS. MODEL#WD2540, 3Yr. Warr.

digital™

Digital Equipment Corporation
High End, High Capacity

5-YEAR WARRANTY

2.0GB SCSI-II

- DSP-5200S
- 3600RPM
- 12.5ms
- Full Height
- 5-Yr. Warr.

$1179

External $1399

***Fast* SCSI-II**

CAPACITY	M/N	CACHE	RPM	SPEED	INTERNAL	EXTERNAL
1.0GB	3107L	3.5"X1"	5400	9ms	$999	$1129
1.6GB	**3160S**	**3.5"**	**5400**	**9.5ms**	**$1249**	**$1359**
2.1GB	**3210S**	**3.5"**	**5400**	**9.5ms**	**$1639**	**$1749**
2.0GB	**5200S**	**FH**	**3600**	**12.5ms**	**$1199**	**$1399**
3.5GB	5350S	FH	5400	11.5ms	$2699	$2899

QUALITY EXTERNAL SCSI & SCSI-II DRIVES

For MAC, SUN, NeXT, and IBM Compatibles

- High Quality Metal Cases
- 2 Centronics Output
- Noise-Free Fan
- External SCSI ID Switch
- External SCSI Cable (50C-50C or 50C-25C)
- Power Cable & Hardware
- Fully Tested & Approved
- Universal Power Supply 100/220V

See page 6 for a complete list of External Hard Drives, CD-ROM Drives, Tape Backup Drive...

IBM®

Largest Capacity Hard Drive Ever!

4GB Fast SCSI-II

5.25" Format: Contains Two 3.5" HDAs Addressable as one LUN

- Data Stripping Across Two Actuators
- 1MB Multi-Segmented, Dual Port Data Buffer
- <10ms Read Access Time
- 5400RPM
- Up to 20MB/Sec Transfer Rate (sync)
- 375,000 hous MTBF
- 5Yr. Warr.

$3699

1.0GB FAST SCSI-II
LOW PROFILE 3.5"X1"

- 800,000 Hrs. MTBF
- 8.6ms Access Time
- 5400 RPM
- 512K Cache
- 5Yr. Warr.

INTERNAL **$1059**
External $1169

Maxtor®

Our complete Maxtor line is 3.5"X1" low profile format

IDE

131MB IDE...............$179
7131A, 14ms, 1 Yr. Warr.

245MB IDE...............$239
7245A, 15ms, 1 Yr. Warr.

345MB IDE...............$279
7345A, 14ms, 2 Yr. Warr.

540MB IDE.....$439
MXT-540A, 8.5ms, 256K Cache, 2 Yr. Warr.

SCSI

External SCSI Drives Add $110

245MB SCSI..............$239
7245S, 15ms, 2 Yr. Warr.

345MB SCSI..............$337
7345S, 14ms, 2 Yr. Warr.

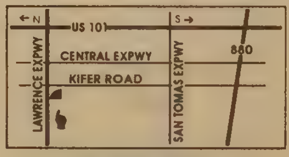
540MB SCSI...$569
MXT-540S, 8.5ms, 256K Cache, 2 Yr. Warr.

1.2GB SCSI.............$1299
MXT-1240S, 8.5ms, 256K Cache, 2 Yr. Warr.

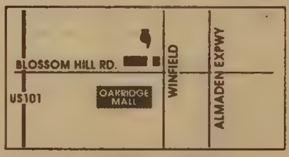
NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

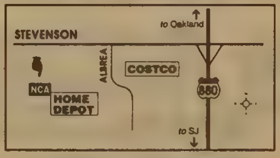
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

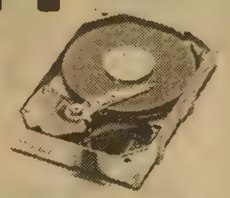
©1994 INVERSE CORPORATION

HARD DRIVES

MORE

Quantum®

Specify Quantum, Specify Quality



270MB IDE **$229**
LPS270A, 12ms, 128K Cache, 3.5X1"

540MB IDE **$449**
LPS540AT, 12ms, 128K Cache, 3.5X1"

1.8GB SCSI 3.5" **$1149**
PD1800S, 10ms, 512K Cache, 3.5

EXTERNAL $1259

BRAND NEW WITH A TWO YEAR FACTORY WARRANTY · FIVE YEARS ON PD SERIES ONE YEAR ON 2.5" DRIVES

IDE

CAPACITY	M/N		SPEED	SIZE	PRICE
127MB	GLS127AT	FOR NOTEBOOKS	17ms	2.5"X17mm	$249
170MB	GLS170AT		17ms	2.5"X17mm	$279
256MB	GLS256AT		17ms	2.5"X19mm	$369
127MB	ELS127A	32K	17ms	3.5X1"	$179
170MB	ELS170A	32K	17ms	3.5X1"	$189
240MB	LPS240A	256K	16ms	3.5X1"	$229
270MB	**LPS270A**	**128K**	**12ms**	**3.5X1"**	**$219**
340MB	**LPS340A**	**128K**	**Fast**	**3.5X1"**	**$259**
525MB	LPS525AT	512K	10ms	3.5X1"	$499
540MB	**LPS540AT**	**128K**	**12ms**	**3.5X1"**	**$435**

SCSI

CAPACITY	M/N		SPEED	SIZE	PRICE
127MB	GLS127S	FOR MAC POWERBOOKS	17ms	2.5"X17mm	$269
170MB	GLS170S		17ms	2.5"X17mm	$289
256MB	GLS256S		17ms	2.5"X19mm	$379

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
127MB	ELS127S	32K	17ms	3.5X1"	$189	$309
170MB	ELS170S	32K	17ms	3.5X1"	$199	$329
240MB	LPS240S	256K	16ms	3.5X1"	$249	$359
270MB	LPS270S	128K	12ms	3.5X1"	$269	$379
340MB	LPS340S	128K	FAST	3.5X1"	$299	$409
525MB	LPS525	512K	10ms	3.5"X1"	$499	$609
540MB	LPS540S	128K	12ms	3.5"X1"	$499	$609
700MB	PD700	512K	10ms	3.5"	$739	$859
1.0GB	PD1050S	512K	10ms	3.5"	$869	$979
1.0GB	PD1080S	X	FAST	3.5"	$899	$1019
1.2GB	PD1225S	512K	10ms	3.5"	$939	$1049
1.8GB	**PD1800S**	**512K**	**10ms**	**3.5"**	**$1149**	**$1259**

▶ FACTORY NEW WITH FULL FACTORY WARRANTY

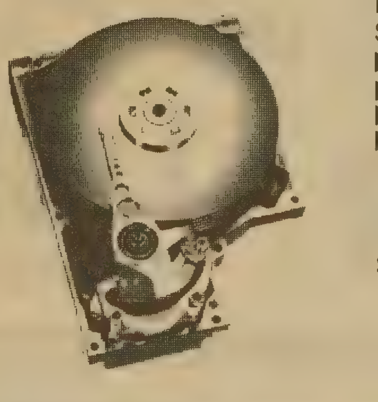
Seagate

SUPER DEAL:

1.0GB FAST SCSI-II 3.5X1" LOW PROFILE $849
ST31200N, 5 Yr warr. 9ms, 256K Cache

EXTERNAL... $959

BARRACUDA SERIES



BARRACUDA I / 1.6GB
ST11950N
- 3.5", 8ms
- 7200RPM
- Fast SCSI-II
- 500,000MTBF

INTERNAL **$1599**
EXTERNAL $1739

BARRACUDA II / 2.1GB
ST12550N
- 3.5", 8ms
- 7200RPM
- Fast SCSI-II
- 500,000MTBF

INTERNAL **$1899**
EXTERNAL $2059

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
214MB	ST3243A	32K	16ms	3.5"X1"	$198
245MB	ST3283A	X	Fast	3.5"X1"	$299
263MB	ST3290A	64K	16ms	3.5X1"	$239
341MB	ST3390A	256K	12ms	3.5X1"	$298
452MB	ST3550A	256K	12ms	3.5X1"	$449

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
343MB	ST3390N	256K	12ms	3.5"x1"	$399	$529
456MB	ST3550N	256K	12ms	3.5X1"	$529	$639
525MB	ST3600N	256K	10.5ms	3.5X1"	$679	$799
1.05GB	ST11200N	256K	10.5ms	3.5"	$849	$949
1.0GB	**ST31200N**	**256K**	**9ms**	**3.5"x1"**	**$849**	**$949**
1.04GB	ST41200N	X	Fast	FH	$949	$1149
1.4GB	ST41651N	256K	15ms	FH	$1099	$1299
1.6GB	ST11950N	1024K	8ms	3.5"	$1599	$1739
1.08GB	ST410800N	X	Fast	FH	$Call	$Call
1.9GB	ST42100N	256K	12.9ms	FH	$1489	$1689
2.1GB	ST42400N	256K	11ms	FH	$1699	$1899
2.1GB	**ST12400N**	**256K**	**9ms**	**3.5"**	**$1599**	**$1729**
2.1GB	ST12550N	1024K	8ms	3.5"	$1899	$2059
2.9GB	ST43400N	512K	10ms	FH	$2199	$2399
2.9GB	ST43401N	512K	Fast-Wide 10ms	5.25	$2499	$2699

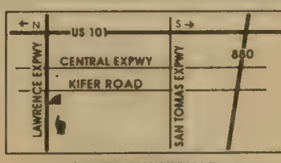
Seagate and the Seagate logo are registered trademarksof Seagate Technology Inc.

NCA Computer Products

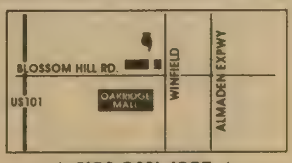
Your Computer Product SUPERMARKET

DISCOVER · AMERICAN EXPRESS · VISA · PURCHASE ORDERS

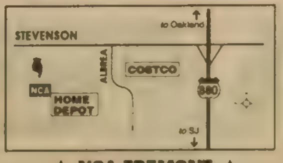
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

HARD DRIVES

MORE

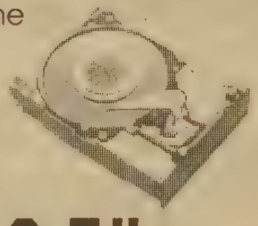
MICROPOLIS

Brand new with 5-year factory warranty

Novell Labs Tested & Approved

1.0GB 3.5" FAST SCSI-II

- ▶ MC2210S
- ▶ 10ms Seek Time
- ▶ 5400RPM
- ▶ 3.5"

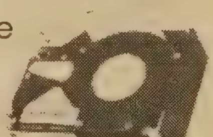


$829

EXTERNAL...$939

1.75GB 3.5" FAST SCSI-II

- ▶ MC2217S
- ▶ 10ms Seek Time
- ▶ 5400RPM
- ▶ 3.5"



$1199

EXTERNAL...$1309

IDE

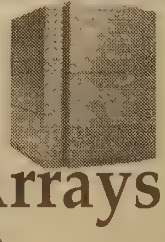
	MODEL	RPM	SPEED	SIZE	INTERNAL
1.0GB	MC2210A	5400	10ms	3.5"	........$829
1.75GB	MC2217A	5400	10ms	3.5"	......$1199

SCSI

	MODEL	RPM	SPEED	SIZE	INTERNAL	EXTERNAL
1.0GB	MC2210	5400	10ms	3.5"	......$829	........$939
1.0GB	MC2210AV	Audio/Visual			.........$999	......$1109
1.4GB	MC1908	5400	11ms	FH	......$1249	.....$1449
1.75GB	MC2217	5400	10ms	3.5"	.....$1199	.....$1309
1.75GB	MC2217AV	Audio/Visual			........$1299	.....$1409
1.8GB	MC1548	3600	14ms	FH	......$1499	.....$1699
2.0GB	MC1926	5400	11ms	FH	......$1599	.....$1799
3.0GB	MC1936	5400	11ms	FH	......$2399	.....$2599

We carry a complete line of the new Micropolis MicroDisks®.

RAIDION™



Fault-Tolerant Disk Arrays

RAID Level 5 Disk Subsystems

Includes: NOVELL or OS/2 Configuration Kits

LT1120	Lite 3X560MB Modules..............................	$Call
LT2100	Lite 3X2.1GB Modules	$Call

Novell Labs Tested & Approved

FUJITSU®

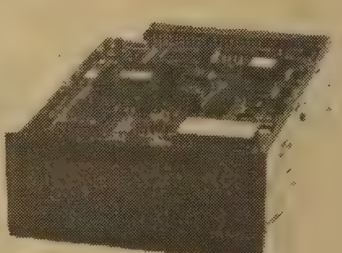
5 YEAR WARRANTY

520MB SCSI 3.5"

LOWEST NCA PRICES EVER

M2624FA

- ▶ 3.5" HH Drive
- ▶ 12ms Seek Time
- ▶ 240K Read/Write Cache(SCSI)
- ▶ 5-Year Warranty



$459

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
520MB	M2624T	64K	12ms	3.5"	......$449

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
520MB	M2624FA	240K	12ms	3.5"	.....$459	......$564
1.0GB	M2694ESA	256K	10ms	3.5"	.....$823	......$949
2.0GB	**M2654SA**	**256K**	**12ms**	**FH**	**.....$1395**	**...$1599**

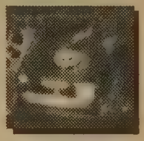
HEWLETT PACKARD

High Quality Hard Drives

1.05GB 3.5" SCSI-II

Formatted Capacity

- ▶ HP C2247
- ▶ 10.5ms Seek Time
- ▶ 5400RPM
- ▶ 300,000 MTBF
- ▶ 5-Yr. Warr.
- ▶ Up to 24 Mbits/s Trans. Rate
- ▶ Up to 10 Mbytes/s Trans. Rate (synchronous)



EXTERNAL.....$1049 **$939**

2.1GB 3.5" FAST SCSI-II

- ▶ HP C2490
- ▶ 8.9ms Seek Time
- ▶ 6400RPM
- ▶ 500,000RPM
- ▶ 5-Yr. Warr.
- ▶ 57 Mbits/s Trans. Rate
- ▶ Up to 10Megabytes/s (synchronous)

EXTERNAL.....$2229 **$2099**

2.47GB FAST SCSI-II

Unformatted Capacity

- ▶ HP C3010
- ▶ 11.5ms Seek Time
- ▶ 5400RPM
- ▶ 300,000 MTBF
- ▶ 5-Yr. Warr.
- ▶ Up to 24 Mbits/s Trans. Rate
- ▶ Up to 10 Mbytes/s Trans. Rate (synchronous)

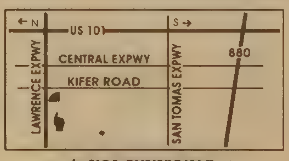
EXTERNAL.....$1899 **$1699**

NCA Computer Products

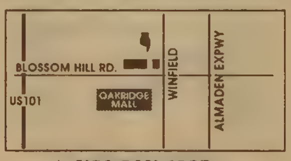
Your Computer Product SUPERMARKET

PURCHASE ORDERS

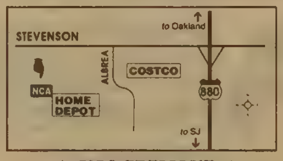
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

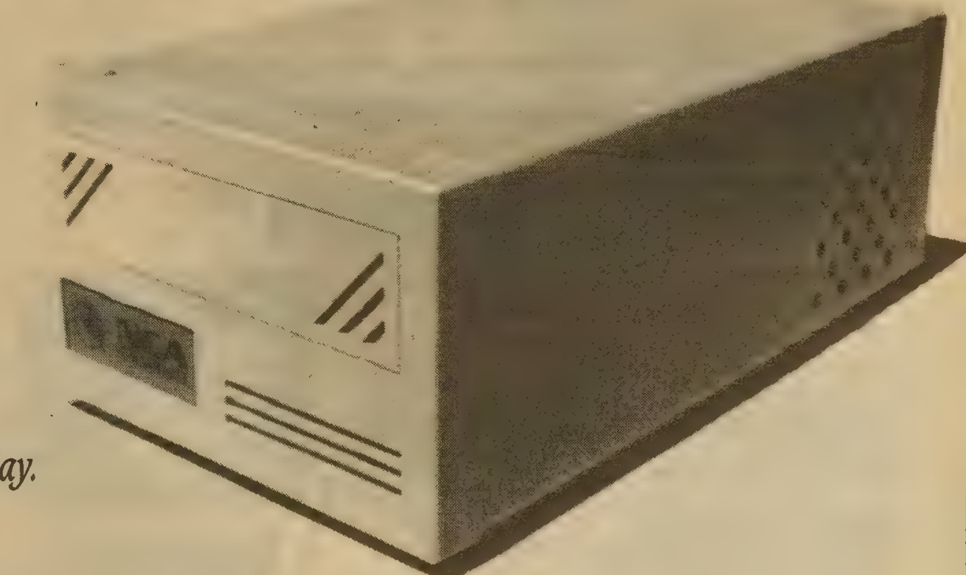
EXTERNAL SUBSYSTEMS

NCA's High Quality

EXTERNAL SCSI DEVICES

for PC, MAC, SUN, & NeXT

- High Quality External Cases.
- Noise-Free Fan
- Top Manufacturers Quality SCSI Devices
- Universal Power Supply 110/220V
- 2 External Centronics Connectors
- Selectable SCSI ID.
- External Termination / includes a terminator
- SCSI Cable (Cent50-Cent50 or Cent50 to DB25)
- Power Cable
- Fully Tested and Approved
- Mac Formatting and Caching Software (upon request)
- External PC Kits Available



ONE STOP SuperSource for Virtually Every SCSI Drive Made today.

NCA's

Barracuda I

External
3.5" Fixed SCSI Disk Drives

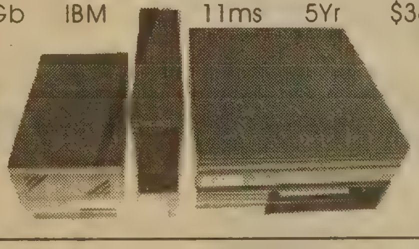
SIZE Formatted	Int. Drive	SPEED	WARRANTY	PRICE
170Mb	Quantum	17ms	2Yr	$329
240Mb	Quantum	Fast	2Yr	$359
270MB	Quantum	12ms	2Yr	$379
340MB	Quantum	Fast	2Yr	$409
245Mb	Maxtor	15ms	2Yr	$349
345Mb	Maxtor	15ms	2Yr	$447
456Mb	Seagate	10ms	1Yr	$639
520Mb	Fujitsu	12ms	5Yr	$564
525Mb	Quantum	10ms	2Yr	$609
525Mb	Seagate	10ms	1Yr	$799
540Mb	Maxtor	8.5ms	2Yr	$679
540Mb	Conner	12ms	1Yr	$614
700Mb	Quantum	fast	5Yr	$859
877Mb	Toshiba	12ms	5Yr	$829
1.0Gb	Quantum	Fast	5Yr	$1019
1.0Gb	Conner	<10ms	1Yr	$1059
1.0Gb	Micropolis	10ms	5Yr	$939
1.0Gb	IBM	8ms	5Yr	$1169
1.0Gb	Seagate	10ms	5Yr	$949
1.0Gb	HP	10ms	5Yr	$1049
1.0Gb	DEC 3107	9ms	5Yr	$1129
1.0Gb	Fujitsu	10ms	5Yr	$949
1.2Gb	Quantum	10ms	5Yr	$1079
1.2Gb	Maxtor	8.5ms	3Yr	$1409
1.37Gb	Conner	10ms	1Yr	$1024
1.6Gb	DEC	9ms	5Yr	$1359
1.7Gb	Micropolis	10ms	5Yr	$1309
2.1Gb	Seagate	9ms	5Yr	$1729
2.1Gb	HP	8.9ms	5Yr	$2229
2.1Gb	DEC	9ms	5Yr	$1749

NCA's

Barracuda II

External
FH Fixed SCSI Disk Drives

SIZE Formatted	Int. Drive	SPEED	WARRANTY	PRICE
1.04GB	Seagate	Fast	5Yr	$1149
1.08Gb	Seagate	Fast	5Yr	$Call
1.4Gb	Micropolis	11ms	5Yr	$1449
1.4Gb	Seagate	15ms	1Yr	$1299
1.8Gb	Micropolis	14ms	5Yr	$1699
1.9Gb	Seagate	12.9ms	5Yr	$1689
2.1Gb	Seagate	11ms	5Yr	$1899
2.0Gb	Micropolis	11ms	5Yr	$1799
2.0Gb	Fujitsu	12ms	5Yr	$1599
2.0Gb	HP	11.5ms	5Yr	$1399
2.0Gb	**DEC**	**12ms**	**5Yr**	**$1399**
3.0Gb	Micropolis	11ms	5Yr	$2599
2.9Gb	Seagate	11ms	5Yr	$2399
2.9Gb	Seagate	Fast Wide	5Yr.	$2699
3.5Gb	DEC	11.5ms	5Yr	$2899
4.0Gb	IBM	11ms	5Yr	$3899



plus: 100's of customized combos and options available

Quality Built SCSI Sub-Systems Since 1988

NCA's

Barracuda III

External
Non-Fixed SCSI Devices

SCSI BACKUP:

SIZE(UPTO)	MAKE	MODEL	TYPE	PRICE
250Mb	**WangTek**	**5150ES**	**1/4"**	**$339**
525Mb	**WangTek**	**E5525S**	**1/4"**	**$469**
250Mb	Archive	2150S	1/4"	$449
525Mb	Archive	2525S	1/4"	$579
1.3Gb	Archive	2750S	1/4"	$899
2.0Gb	Archive	4540NT	4mm	$1149
4.0Gb	Archive	4324NT	4mm	$1299
2.2Gb	Exabyte	EXB8200	8mm	$1799
2.2Gb	Exabyte	EXB8205	8mm	$1649
5.0Gb	Exabyte	EXB8500	8mm	$2649
5.0Gb	Exabyte	EXB8505	8mm	$2559
2.0Gb	HP	35470	4mm	$1099
8.0Gb	HP	35480	4mm	$1199
2.0Gb	WangDat	3100	4mm	$1099
8.0Gb	WangDat	3200	4mm	$1199
4.0Gb	WangDat	3300Dx	4mm	$Call
8.0Gb	WangDat	3400Dx	4mm	$Call

MAC Backup Software	*add $ 79*
NovaBack for PC or WIN	*add $ 99*
Novell NLM for 250users	*add $449*

EXTERNAL SCSI CD ROMs:

MAKE	MODEL	ACCESS	TRANSFER	PRICE
TOSHIBA	3401B	200ms	330Kb	$389
NEC	3Xe	190ms	450Kb	$565
CHINON	535	280ms	300Kb	$429
Plextor	5028	265ms	300Kb	$379
PIONEER	604X	300ms	612Kb	$1149
TEAC	CD-50	265ms	300Kb	$369

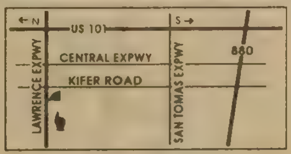
Also Available:
External OPTICAL & Removable Cartridges by:
Syquest, Bernoulli, Maxoptix, Fujitsu, Ricoh

NCA Computer Products

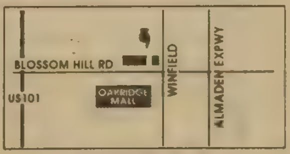
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

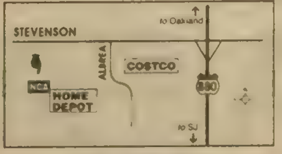
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA
CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

12 ⑥

©1994 INVERSE CORPORATION

MASS STORAGE

MORE

HEWLETT PACKARD

HARD DRIVES

1.05GB 3.5" SCSI-II

FORMATTED CAPACITY

- HP C2247
- 10.5ms sek time
- 5400 RPM
- 300000 MTBF
- 5-Yr Warranty
- Up to 24 Mbits/s transfer rate
- Up to 10 Mbytes/s (synchronous)

$999

EXTERNAL.................. $1129

2.1GB 3.5" FAST SCSI-II

FORMATTED CAPACITY

- HP C2490
- 8.9ms seek time
- 6400 RPM
- 500,000 MTBF
- 5-Yr Warranty
- 57 Mbits/sec transfer rate
- Up to 10Megabytes/sec (synchronous)

$2099

EXTERNAL.................. $2229

2.47GB Fast SCSI-II

UNFORMATTED CAPACITY

- HP C3010
- 11.5ms seek time
- 5400 RPM
- 300,000 MTBF
- 5-Yr Warranty
- Up to 42 Mbits/s transfer rate
- Up to 10 Megabytes/sec (synchronous)

$1799

EXTERNAL.................. $1999

4mm DAT TAPE BACKUP

The most reliable SCSI Tape Backups for MAC, PC or SUN.

2.0GB HP 35470A

- 183 Kbytes/s transfer rate
- 300 Mbytes in under 30 minutes
- 500,000 MTBF

$999

EXTERNAL.................. $1099

4-8GB HP 35480A

- Up to 732 Kbytes/s transfer rate
- 1 Gbytes in under 30 minutes
- 500,000 MTBF

$1099

EXTERNAL.................. $1199

OPTICAL DRIVES

1.3GIGABYTE MULTIFUNCTION OPTICAL REWRITABLE & WORM DRIVE

- HP C1716T,
- SCSI-2
- Up to 3600 RPM
- 23.5 ave. seek time
- 512 Kbytes buffer

INTERNAL

$2399

EXTERNAL (C2550)

WITH CARTRIDGE

$2799

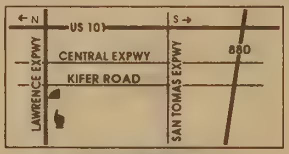
1.3GB Cartridge $129

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

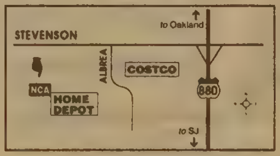
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

EXABYTE

EXABYTE®

FS1G

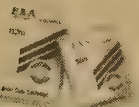
1.5Gb SCSI Tape Storage

Complete System Includes

- ▶ External FS1G Tape Drive
- ▶ Adaptec 16-Bit SCSI Controller Card
- ▶ File Secure Software
- ▶ One Data Cartridge
- ▶ Up to 30MB/min. Transfer

$869

Internal unit only $519

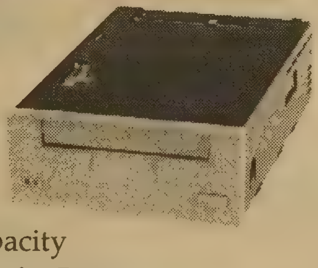


Extra 1.5GB Cartridge $39

The Best Name in 8mm Cartridge Tape Subsystems

Exabyte 4mm DAT Cartrige Tape SCSI Subsystem

2GB EXB-4200



3.5"

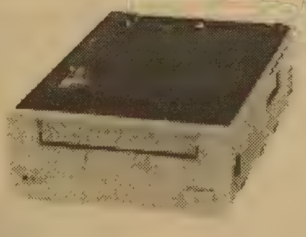
2GB

- ▶ 2GB Native Capacity
- ▶ 233Kb/Sec Transfer Rate
- ▶ 20 Sec Avg. Access Time
- ▶ 3.5" Form Factor

$849

EXTERNAL $959

4GB EXB-4200c



3.5"

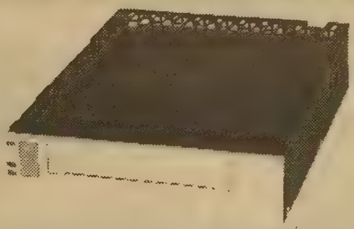
4GB

- ▶ 4-5GB Compression Capacity
- ▶ 466Kb/Sec Transfer Rate
- ▶ 20 Sec Avg. Access Time
- ▶ 3.5" Form Factor

$949

EXTERNAL $1039

2.5GB EXB-8205



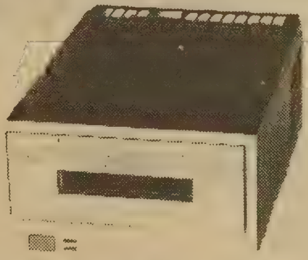
2.5GB

- ▶ Half-height, 8mm Cartridge Tape
- ▶ Intelligent IDRC algorithm data compression
- ▶ 5GB capacity at 500Kb/Sec (compressed)
- ▶ MTBF 80,000 hours

$1499

EXTERNAL $1649

2.5GB EXB-8200



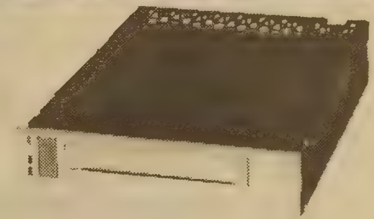
2.5GB

- ▶ Full-height, 8mm Cartridge Tape
- ▶ On-Board Error Correct Code & Recovery Products
- ▶ 256K buffer
- ▶ 246Kb/Sec Transfer Rate

$1499

EXTERNAL $1799

5GB EXB-8505



5GB

- ▶ Half-height, 8mm Cartridge Tape
- ▶ Intelligent IDRC algorithm data compression
- ▶ 10GB capacity at 1MB/Sec (compressed)
- ▶ MTBF 80,000 hours

$2089

EXTERNAL $2559

5GB EXB-8500

5GB

- ▶ Full-Height, 8mm Cartridge Tape
- ▶ 500Kb/Sec Transfer Rate (up to 4MB/Sec Synchronous)
- ▶ 1MB Cache Buffer

$2399

EXTERNAL $2649

8mm 112m Tapes (up to 5.0GB)

Single $18 5-Pack $89

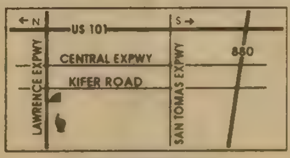
Cleaning Cartridges (12Pass) $29

NCA Computer Products

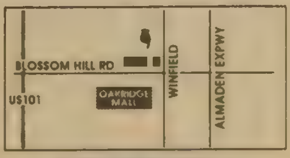
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

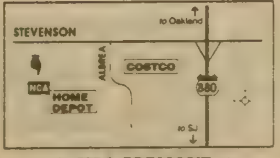
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expwy & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

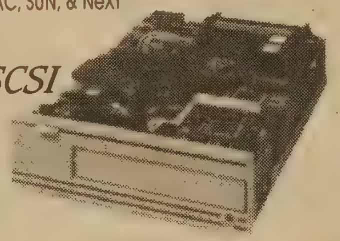
©1994 INVERSE CORPORATION

TAPE BACK-UP

CONNER

SOFT•STOR

for IBM Compatibles, MAC, SUN, & NeXT



Formerly ARCHIVE

The BEST name in SCSI Back-up Drives

VIPER

2150S

- ◆ 250MB VIPER
- ◆ 6MB/MIN.

INT.	EXT.
$329	$449

Int. W/Software $399

2525S

- ◆ 525MB VIPER
- ◆ 6MB/MIN.

INT.	EXT.
$459	$579

Int. W/Software $549

ANACONDA

- ◆ 36MB/MIN
- ◆ SCSI-2
- ◆ 1/4" TAPE UNIT

1.3GB 2750

INTERNAL $799
EXTERNAL $899

2.0GB 2800

INTERNAL $999
EXTERNAL .. $1099

PYTHON

4324 TURBO PYTHON

- ◆ 4GB DAT 4mm
- ◆ 1MB Cache Buffer

INT.	EXT.
$1179	$1299

4320NT

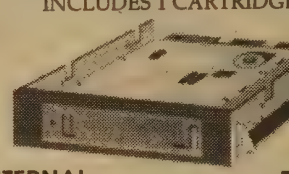
- ◆ 2.0GB DAT 4mm
- ◆ 11MB/MIN.

INT.	EXT.
$1049	$1149

CONNER

TAPE•STOR 250MB TAPE BACKUP

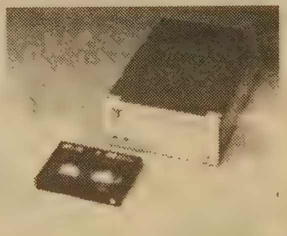
INCLUDES 1 CARTRIDGE



INTERNAL
RUNS OFF FLOPPY PORT
$139

EXTERNAL
RUNS OFF PARALLEL PORT
$329

HEWLETT PACKARD

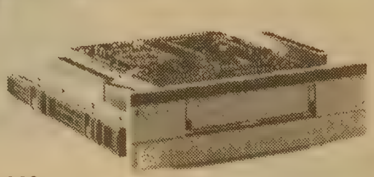


The most reliable SCSI Tape Backups for MAC, PC or SUN

SCSI 4mm DAT

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.0GB	35470 DAT	$999	$1099
4-8GB	35480 DAT	$1099	$1199
4-16GB	C1533A	$1699	$1829

COLORADO MEMORY SYSTEMS INC.



Uses 2120 Tapes

RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	INTERNAL
120MB	DJ10 JUMBO120	$89
250MB	DJ20 JUMBO250	$155

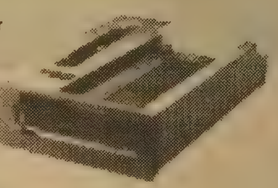
EXTERNAL KIT WITH CARD AND CABLES KE-10	$109
EXTERNAL TAPE PORT AB-11	$35
FC-10 TAPE CONTROLLER, WITH CABLES	$79
TC-15 HIGH PERFORMANCE 16-BIT CONTROLLER	$169

WANGTEK

LIMITED QUANTITY

250MB SCSI Tape Backup

Uses DC6250 1/4" Tape QIC-150 or QIC-120 64K Cache Buffer 1.8Mbyte per Second. Asynchronous data transfer. 5.25" half height.

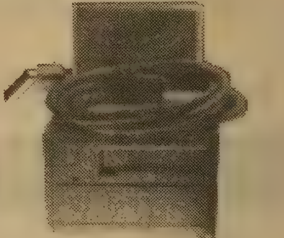


$239

External 250MB for PC $339
External Version for Mac w/Software $399

525MB External SCSI Tape Backup

External E5525S SCSI Drive Includes: One 525MB Cartridge, Cable, & SCSI Terminator



$469

EXABYTE

FS1G

1.5GB SCSI Tape Storage

COMPLETE SYSTEM INLUDUES:

- •External FS1G Tape Drive
- •Adaptec 16-Bit SCSI Controller Card
- •File Secure Software
- •Up to 30MB/Min. Transfer
- •One Data Cartridge

$869

Internal Unit $519

4mm DAT Cartridge Subsystems

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.0GB	EXB-4200	$849	$959
4GB	EXB-4200C	$949	$1039

2.5GB 8mm DAT Subsystems

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.5GB	EXB-8205	$1379	$1649
2.5GB	EXB-8200	$1499	$1799

5GB 8mm DAT Subsystems

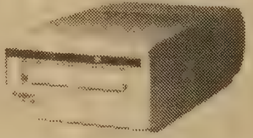
CAPACITY	MODEL	INTERNAL	EXTERNAL
5.0GB	EXB-8505	$2089	$2559
5.0GB	EXB-8500	$2399	$2649

WangDAT™

SCSI 4mm DAT

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.0GB	3100 DAT	$999	$1099
2-4GB	3300DX	$Call	$Call
4-8GB	3200 DAT	$1099	$1199
4-8GB	3400DX	$Call	$Call

Trakker.

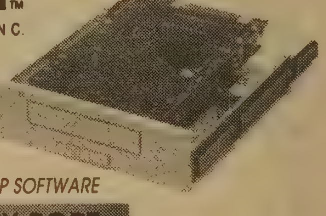


PARALLEL PRINTER PORT EXTERNAL TAPE BACK-UP SYSTEMS

RUNS OFF PARALLEL PRINTER PORT

CAPACITY	MODEL/TYPE	EXTERNAL
120MB	TRAKKER 120	$283
250MB	**TRAKKER 250**	**$323**

SUMMIT™ MEMORY SYSTEMS INC.



WITH CENTRAL POINT BACKUP SOFTWARE

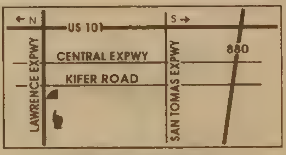
RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	INTERNAL
120MB	SE-120	$129
250MB	SE-250	$159

NCA Computer Products

Your Computer Product SUPERMARKET

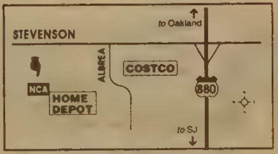
DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

RICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS

©1994 INVERSE CORPORATION

BACKUP SOFTWARE

novastor®

CORPORATION

BACKUP SOFTWARE FOR THE PROFESSIONALS

NOVAWARE®

- **EXTREMELY FAST** operation
- Full **MOUSE SUPPORT**
- **INTUITIVE** point-and-shoot file selection
- **LOGGING OPTIONS** for error reporting
- **FULL RESTORE FUNCTIONS** to different directories or files
- **AUTOMATIC CONFIGURATION**
- **BUILT-IN SCHEDULER** and user-created macros for **TRANSPARENT OPERATION**
- **EASY OPERATION** from batch files

OS/2 VERSION	\$129
WINDOWS VERSION	\$99
DOS VERSION	\$99
Novell-NLM Up to 250 users	\$449

POINTING DEVICES

MICROSPEED

•Price reflects a manufacturer's
$10 End user Mail-in Rebate.
Offer Expires Sep. 1st 1994

- 100% Microsoft mouse compatible
- Includes PrecisionPointer™ driver software that automatically adjusts resolution from 50 to 1000 dpi for quick movement and precise control.

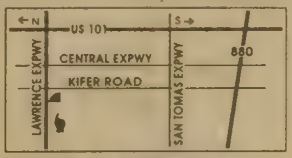
PC-TRAC TRACKBALL	Serial Version	\$48^{99} *
	Bus Version	\$89^{99} *
	PS/2 Mouse Port Comp.	\$69^{99} *
MicroTRAC TRACKBALL	Serial/PS/2 Version	\$47^{99} *
	Macintosh Version	\$55^{99} *
MacTRAC 2.0 TRACKBALL	SE & MAC II	\$59^{99} *
WinTRAC TRACKBALL	Serial Programmable for WIN	\$69^{99} *

MICROSPEED MOUSE DELUXE
Serial version with mousepad & Software — \$39^{99}

NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER · AMERICAN EXPRESS · MasterCard · VISA · PURCHASE ORDERS

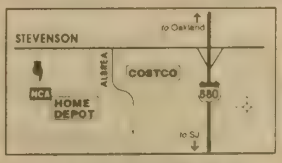
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

REMOVABLES

OPTICALS

HEWLETT PACKARD

1.3GB Multifunction Rewritable & WORM Drive

- HP C1716T
- SCSI-2 1.3GB

INTERNAL **$2399**

EXTERNAL C2550 WITH CARTRIDGE **$2799**

1.3GB Cartridge..........................$129

RICOH

128MBYTE, 3.5" SCSI-II REWRITABLE OPTICAL

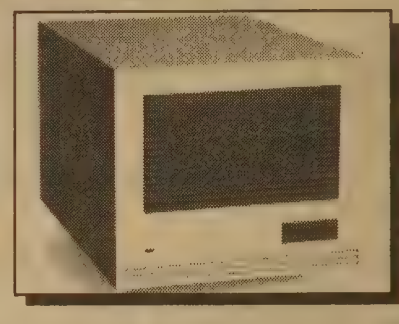
- 3000 RPM
- 256K Cache
- Approx. 40ms

INTERNAL **$719**

EXTERNAL WITH CARTRIDGE **$889**

Multifunction Magento-Optical Disk Drive for 1-Gbyte and 650-Mbyte Rewritable and WORM Disk Cartridges, With up to 4-Mbytes Read/Write cache

Maxoptix™



- Unlimited Data Storage
- External SCSI Subsystem
- One year factory warranty
- 25-Year life of Glass Media
- Embedded SCSI/SCSI-2
- Data Transfer of up to 13.2Mbit/Sec.
- Ultimate Back-up for NOVELL (Ready-to-Boot Backup)

1GB CART. glass/poly $195

TAHITI IIM - Multifunction

- 1MB Read/WriteCache
- External SCSI
- 35ms

$2389

TAHITI IIM - Multifunction

- 4MB Read/Write Cache
- External SCSI
- 35ms

$2589

INTRODUCING

TAHITI IIIm

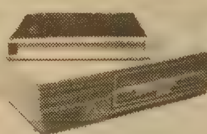
Internal 1.3GB Multi Function Optical

1MB Cache	4MB Cache
$2899	**$3099**

REMOVABLES

SyQuest

44MB SYQUEST REMOVABLE

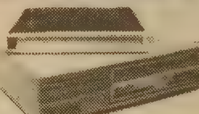


External Drive
- 44MB Cartridge
- Cables
- Installation Software (for MAC)
- PC Software Included With Controller Purchase

$389

Internal Bare Drive $235

88MB C SYQUEST REMOVABLE



External Drive
- 88MB Cartridge
- Cables
- Reads & Write Both 44 & 88 MB
- Installation Software (for MAC)
- PC Software Included With Controller Purchase

$469

Internal Bare Drive $299

105MB 3.5" SYQUEST REMOVABLE

External SCSI Drive
- 14ms Seek Time
- 105MB Cartridge
- Cables
- Installation Software (for MAC)
- PC Software Included With Controller Purchase

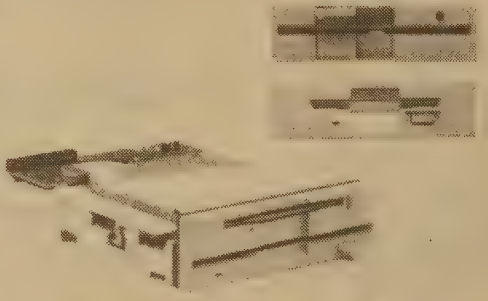
$429

Internal SCSI Bare Drive $319

Internal IDE Bare Drive $239

CAPACITY	SINGLE	5-PACK
44MB Cartridge	$63	$309
88MB Cartridge	$95	$459
105MB Cartridge	$69	$345

TEAC



1.44MB 3.5" With bracket add $6	$37
1.2MB 5.25"	$47
1.2/1.44MB Dual Drive	$108

TOSHIBA

2.88MB TOSHIBA Floppy Drive $59.00

FLOPTICALS

IOMEGA®

21MB Floptical Drive

floptical®

MAC Version

INCLUDES:
- External 3.5" 21MB Floptical
- One Floptical Media
- Cables
- Software for MAC

$399

21MB MEDIA BY IOMEGA LASER ETCHED

SINGLE ......$19.99 **5-PACK......$89.99**

PC Version

INCLUDES:
- IOMEGA 21MB 3.5" Floptical
- One Floptical Media
- Host adapter SCSI 8-bit
- Cables
- Software for PC

INTERNAL	EXTERNAL
$369	**$429**

21MB MEDIA BY IOMEGA LASER ETCHED

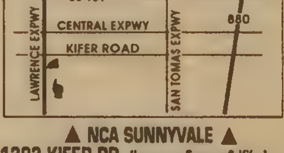
SINGLE ......$19.99 **5-PACK......$89.99**

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610

STEVENSON
to Oakland
ALBREA
COSTCO
NCA
HOME DEPOT
880
to SJ

▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

OPTICALS

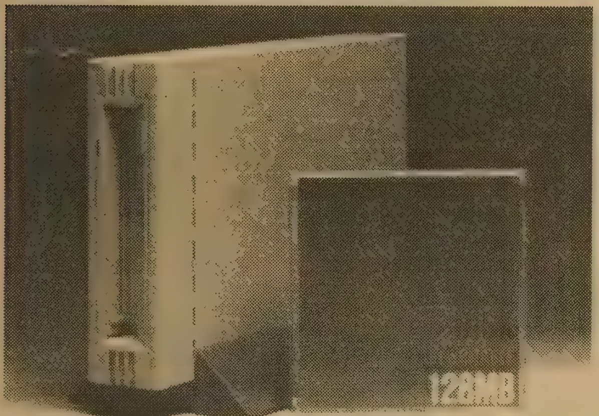
FUJITSU®

FIVE YEAR 5 WARRANTY

128MB REWRITABLE, REMOVABLE OPTICAL SCSI DRIVES

EXTERNAL SCSI 128MBYTE, 3.5" REWRITABLE OPTICAL

DynaMO™ 128



FOR MAC OR IBM

- External Optical Drive
- Using 2511A Internal
- Includes 1 Cartridge
- Fast 30ms Seek Time
- 3600RPM
- 256K Cache
- Software for MAC (free upon request)

$898

PC

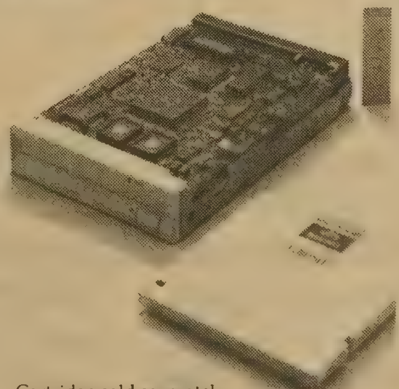
OPTICAL CARTRIDGES

CAPACITY	SINGLE	5-PACK
128MB Fujitsu/Ricoh/Sony	$49	$239
128MB Maxell/Varbatum	$42	$199

INTERNAL 128MBYTE, 3.5" REWRITABLE OPTICAL

- Bare Optical Drive
- 2511A
- Low Profile, only 1"
- Fast 30ms Seek Time
- 3600RPM
- 256K Cache

$769



Cartridge sold separately

NETWORK

intel®

•Ethernet Express Products	Single	5-Pack	20-Pack
16-bit, 10 Base T and Coax Combo	$119	559	1969
16-bit, Coax Cards or 10 Base T Cards	$109	495	1799

•Ethernet Flash Cards	Single	5-Pack	20-Pack
16-bit, 10 Base T and Coax Combo	$139	629	2399
16-bit, 10 Base T or Coax Cards	$119	539	1899

•Print Servers/NetPort Line	
NetPort for 10 Base T or Coax	$419

SMC

•Elite Ultra Line/Ethernet	Single	6-PacK	24-Pack
16-bit, Coax or Board Twisted Pair	$109	589	2199
16-bit, Combo Board	$119	659	2549
•3812 Line of Stackable Hubs			
12 Port Hub	$599		
Network Managment Module	$415		
•Twisted Pair Hubs			
Elite 10 Base T w/12 RJ-45	$599		
Elite 10 Base T w/12 RJ-45 with SNMP	$899		
Elite 10 Base T w/8 RJ-45	$339		

3Com

3COM	
EtherLink II - 16-bit 10 Base T / Coax3C503	$167/167
EtherLink III - 3C509 10 Base T or Coax	$127
EtherLink III - 3C509 Combo Card 16-bit	$143
EtherLink III - 32-bit EISA 10 Base T or Coax	$229

NOVELL.

NOVELL	single	5-Pack
NE2000 plus 16-bit Coax	$109	499
NE2000 plus 16-bit Twisted Pair	$103	473
NE2000 plus Combo	$133	549
NE3210 32-bit EISA Combo	$213	

NOVELL.

NOVELL SOFTWARE

Ver.	5 user	10 user	25 user	50 user	100 user	250 user
3.12	$613	$1393	$2083	$2699	$3995	$6995
4.01	$819	$1793	$2599	$3595	$5395	$9695

SPECIAL OFFER

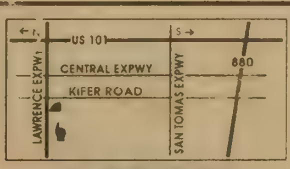
16-bit Card with Novell Lite 1.1	$37
Leadman 10 Base T or Coax 8-bit/16-bit	$59

NCA Computer Products

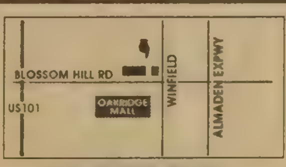
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

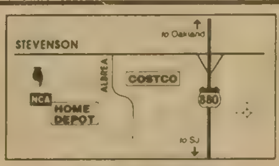
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

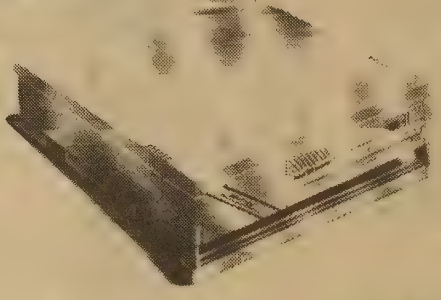
NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

IOMEGA

BERNOULLI



MULTIDISK 150 ATA/IDE DRIVE

▶ INSIDER 150 IDE

150MB 5 1/4" Internal Drive for PCs with IDE Interface

$479

MULTIDISK 150 PACKAGES

•Includes 1 Free 150MB Shareware Disk & 250KB Read/Write Cache

▶ PC POWERED 150

Host Powered 150MB Subsystem for PC Systems (ISA/EISA)

▶ MAC TRANSPORTABLE

150MB 5 1/4" External Subystem for Macintosh

$479

90 PRO PACKAGES

▶ PC POWERED 90

Host Powered 90MB Subsystem for PC Systems (ISA/EISA)

▶ MAC TRANSPORTABLE 90 PRO

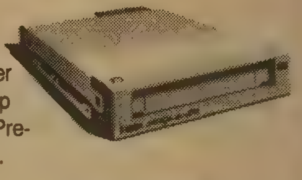
90MB 5 1/4" External Subystem for Macintosh

$339

tape 250

TAPE DRIVES

▶ TAPE250 Internal Plus

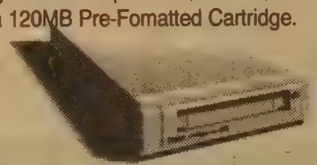


1" by 3.5" Internal QIC 80 Tape Package for installation in Standard Computer Bays (3.5" x 1" and 5.25" x 1.625"). Package includes: drive, Iomega Back up software (DOS & Windows) with Software Data Compression and a 120MB Pre-Formatted Data Cartridge. Internal Plus is QIC 80 and Irwin/read compatible.

$179

▶ TAPE250 External

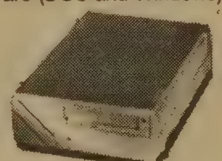
Host Powered QIC 80 Tape Package including External Tape Drive, Cables, Extender Card, Iomega Buackup Software (DOS and Windows), and a 120MB Pre-Fomatted Cartridge.



$219

▶ TAPE250 Parallel Port

External QIC 80 Tape Package for connection on a standard Parallel Port Interface. Package includes Drive, Printer and Power Cables and Iomega Backup Software (DOS and Windows)

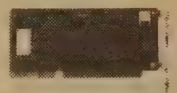


$339

CONTROLLERS

▶ Tape Accelerator I

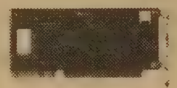
1Megabit per second Tape Drive Controller. Reduced Backup time by half. For "AT" (ISA) BUS computers. For both Internal and External Tape Drive Insatallations.



$69

▶ Tape Accelerator II

1Megabit per second Tape Drive Controller. Reduced Backup time bv half. For "AT" (ISA) BUS computers. For both Internal Tape Drive Insatallations.



$59

▶ Floppy Extended Kit

Internally Mounted Power and Data Extension Kit for an Existing Floppy Disk Controller. Includes "Y" Cables which carry data and power to the card. This board connects to the Iomega TAPE250 PC Powered Tape Drive.

$59

Bernoulli Disks

DISK/MEDIA	DESCRIPTION	SINGLE	3-PACK	5-PACK
MultiDisk™ 150	Single 150MB 5 1/4" Bernoulli Disk	$109	$309	$489
MultiDisk™ 105	Single 105MB 5 1/4" Bernoulli Disk	$99	$269	N/A
MultiDisk™ 65	Single 65MB 5 1/4" Bernoulli Disk	$59	$169	N/A
MultiDisk™ 35	Single 35MB 5 1/4" Bernoulli Disk	$39	$107	N/A
B90	Single 90MB 5 1/4" Bernoulli Disk	$109	$309	$489

Removable

Syquest Compatible

Item	Price
44MB Removable Cartridge	$55
88MB Removable Cartridge	$88

Tape Media

120MB Tape Tri-Pack

Package of Three (3) Pre-formatted 120MB Extended Length Tape Data Cartridge (DC2120) **$59**

120MB Tape Tri-Pack Starter Kit

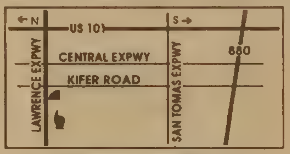
Package of Three (3) Pre-formatted 120MB Extended Length Tape Data Cartridge (DC2120) Includes Cleaning Kit **$69**

NCA Computer Products

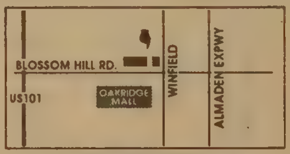
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

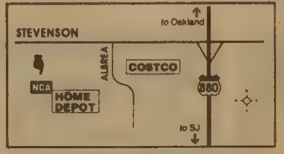
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

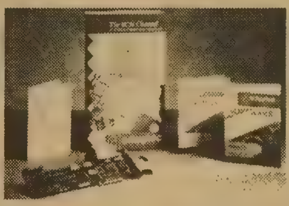
MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

CONTROLLERS

SCSI CONTROLLERS

adaptec

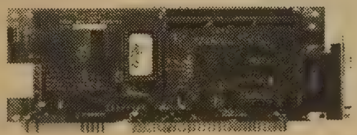


Introducing
2842-VL
Fast SCSI-II VESA **$299**

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
1510	CD ROM 16-BIT -SCSI CARD KIT	$99
1522	16-BIT 7HD/2FD KIT	$145
1542CF	BUS MASTER COMPLETE KIT	$239
1542C+	BUS MASTER KIT WITH COREL SCSI	$314
1640	MICROCHANNEL FOR PS/2, 7HD	$319
2742	EISA KIT, 14HDS	$365
APA-460	Slim SCSI PCMCIA SCSI Card	$289

American Megatrends



SCSI CONTROLLERS

DESCRIPTION	PRICE
FastDisk NC EISA non-cache SCSI cont.	$295
FastDisk EISA Caching Controller up to 16MB	$393
FastDisk VLB VESA Local Bus Caching Controller	$393
FastLAN SCSI	$439

TRANTOR®

FULL KITS W/DRIVERS FOR CD-ROM/OPTICAL... ETC.

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
T130	**8-BIT, 7HD w/ SCSI works**	**$45**
T228	MICROCHANNEL, 7HD	$139
T338	PARALLEL PORT to SCSI ADAPTER	$109
T348	PARALLEL PORT to SCSI PLUS	$149
T358	Parallel Port to SCSI Plus Enhanced	$199

TRANTOR SCSI Works **$59**
ASPI Device Drivers For:
CD-ROMs, Photo CD, Tape Drives, Syquest, Opticals, Scanners, Hard Drives
TAPEMATE II Back-up software & Music Box-Audio CD Software

aaa always technology

Easiest to use, PLUG & PLAY with CD Drivers

SCSI CONTROLLERS

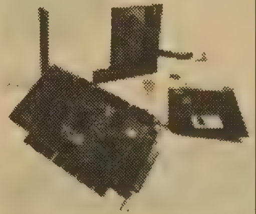
MODEL	DESCRIPTION	PRICE
IN2000	16 BIT 7HD/2FD "Easiest to use"	$175
IN2000PRO	With COREL SCSI	$215
AL1000	SCSI To PARALLEL	$159
AL1000PRO	Above With COREL SCSI	$185

FUTURE® DOMAIN

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
TMC850	8-BIT W/BIOS	$59
TMC1670	SVP 16-BIT SCSI VALUE PACK	$149
TMC1680	SVP 16-BIT VALUE PACK 7HD/4FD	$145

BUSLOGIC

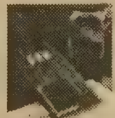


SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
BT545S	ISA Bus Master Fast SCSI Adapter Kit	$229
BT445S	Bus Master Fast SCSI Kit for VL Bus	$299
BT742A	EISA Bus Master SCSI-II Adapter Kit	$329
BT747S	EISA Bus Master Fast SCSI	$379

•While Supplies Last•

PROMISE TECHNOLOGY,INC.



SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
DC2040	2HD/2FD ISA (0MB, Expdbl to 16MB)	$149

UltraStor

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
14F	FD/HD (10MB/SEC)	$195
24F	EISA, 64K, *Fast* (33MB/SEC)	$359
34F	VESA Local Bus Controller	$269

IDE CONTROLLERS

NCA'S STANDARD IDE

IDE CONTROLLERS

MODEL	DESCRIPTION	PRICE
200	2HD/2FD CONTROLLER W/CABLES	$14
211	2HD/2FD W/2 SERIAL, 1PAR, 1GAME	$23
NCL53	SMART CONT. W/BIOS EASY INSTALL	$49
223	**2HD/2FD for VESA LOCAL BUS I/O**	**$59**
15C	CACHING (UP TO 8MB), 2HD, 2FD **UltraStor**	**$159**

BUSLOGIC

IDE CONTROLLERS

MODEL	DESCRIPTION	PRICE
BT510A	IDE Cache Contoller For PC/AT Sys.	$95
BT410A	IDE Cache Controller for VLB	$129

PROMISE TECHNOLOGY,INC.

IDE CONTROLLERS

MODEL	DESCRIPTION	PRICE
DC420VLB	2HD/2FD 512K Cache (exp. -1MB)	$109
DC4030VL-II	4HD/2FD VESA (exp.-16MB)	$125
DC200M	4HD/2FD ISA 512K Cache (exp.-8.5MB)	$129
DC200	4HD/2FD ISA (exp - 16MB)	$95

NCA is your
Controller Super Source

WONDER 16550 IDE CARD

2 IDE DRIVES/2 FLOPPY
2 HIGH SPEED 16550 SERIAL PORTS
1 PARALLEL PORT / 1 GAME **$69**

PORT-FOLIO 16550

13-Port Super I/O Card
4 INTEGRATED NS16550 HIGH SPEED UARTs

QUICKPATH

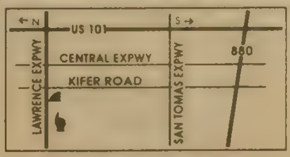
- 2 IDE HD
- 4 Floppy
- 2 Parallel
- 4 Serial
- 1 Game

$129

NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

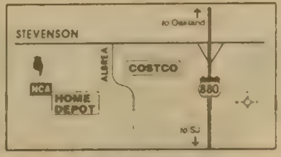
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA
CORPORATE
Corporate, Dealer, Government,
Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

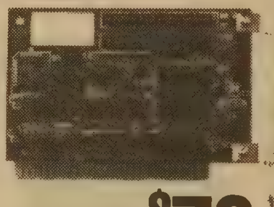
©1994 INVERSE CORPORATION

CONTROLLERS

gsi™ Intelligent Accelerator/IDE Boards

GSI Model 11

8-Bit Four-Floppy & 250MB Tape Accelerator Board



- High-speed floppy interface (up to four floppy drives)
- Doubles the speed of 250MB (QIC-80) tape drives
- Fully supports 2.88MB floppy disk drives
- Supports "Media-Sensing" compatibilites of 2.88MB floppies
- Works in primary or secondary mode
- Perfect floppy or tape upgrade board

$79

GSI Model 18

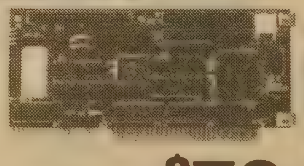
16- Primary or Secondary IDE Accelerator Board

- 16-Bit Accelerated IDE Channel (two IDE devices)
- Increases IDE Data transfer rates up to 80%!
- Compatible with Windows 3.x, OS/2 2.x & DOS
- Supports large IDE drives sizes above 528MB
- Tested and recommended by Micropolis, Fujitsu, Maxtor, Seagate, Western Digital, Quantum and Conner

$49

GSI Model 21

16-Bit IDE, Floppy & 250MB Tape Accelerator Board



- 16-Bit Accelerated IDE Channel (two IDE devices)
- Doubles the speed of 250MB tape drives
- Supports large IDE drives sizes above 528MB
- Increases IDE Data transfer rates up to 80%!
- Compatible with Windows 3.x, OS/2 2.x & DOS
- Novell NetWare Tested & Approved

$59

GSI Model 32 NEW!

16-Bit Multi-Port IDE, Floppy, Tape, & I/O Accelerator Board

- 16-Bit Accelerated IDE Channel (two IDE devices)
- Increases IDE Data transfer rates up to 80%!
- Doubles the speed of 250MB tape drives
- Dual 16550 Serial ports
- Supports up to four Floppies including 2.88MB
- Compatible with Windows 3.x, OS/2 2.x & Novell
- Supports large IDE drives sizes above 528MB
- One Bi-directional Parallel Port

$129

GSI Model 4C NEW!

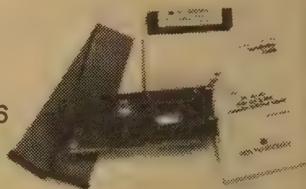
16-Bit Four-Channel, Eight-IDE Accelerator Board

- 16-Bit Multi-Channeling IDE Controller
- Perfect for Nevell mirroring or duplexing
- Four Accelerated IDE channels (Supports 8 IDE Drives)
- Increases IDE data transfer rates up to 80%
- Supports large IDE drives sizes above 528MB

$149

DATA TECHNOLOGY CORPORATION

DTC 3270VL
VESA Local Bus *SCSI* Host Controller



- Supports 7 SCSI Devices (up to 8GB each)
- Supports 2 Floppy Disk Drives
- DOS CD-ROM Drivers
- DTC ASPI Drivers for: DOS, Novell Netware 386
- Internal SCSI cable
- Floptical Support under DOS
- Complete installation and user documentation
- 1-Year Hardware Warranty

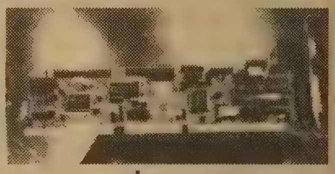
$125

DTC 3280AS ISA to SCSI 16-Bit Host Controller **$139**

DTC 3290AS EISA to SCSI 32-Bit Host Controller w/ Cache ...**$499**

DTC 2278VL KIT
VESA LOCAL BUS *IDE* Controller with Multi-Function I/O

- High Performance - Up to 8.3MB/sec "Featuring the DTC 805 Single Chip Controller"
- Supports 2 IDE Drives/2 Floppy Drives
- Multi I/O : 2 Serial, 1 Parallel, & 1 Game Port
- Drivers for MS-DOS, and Novell Netware 386
- (1) 34-Pin, (2) 40-Pin cables
- Complete installation and user documentation
- 1-Year Hardware Warranty



$39

DTC 2277VL Kit VESA Local Bus Caching IDE Controller ...**$149**

DTC 2280
16-Bit PC/AT *IDE* Super I/O Controller

- Supports 2 IDE Devices
- Supports 2 Floppy Drives
- 2 RS232C Serial Ports
- 1 Parallel Printer Port
- 1 Game/Joystick Port

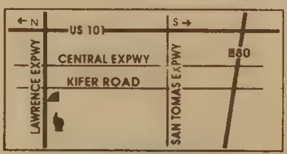
$19.99

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610

STEVENSON
to Oakland
NCA
HOME DEPOT
ALBREA
COSTCO
880
to SJ

▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. Fax(408) 739-2420

Mail Order Dept.
Call (408) 522-3050

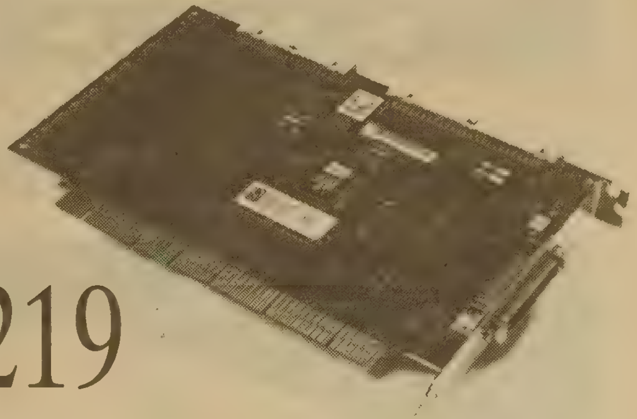
©1994 INVERSE CORPORATION

CONTROLLER CARDS

Affordable High Performance SCSI Controllers

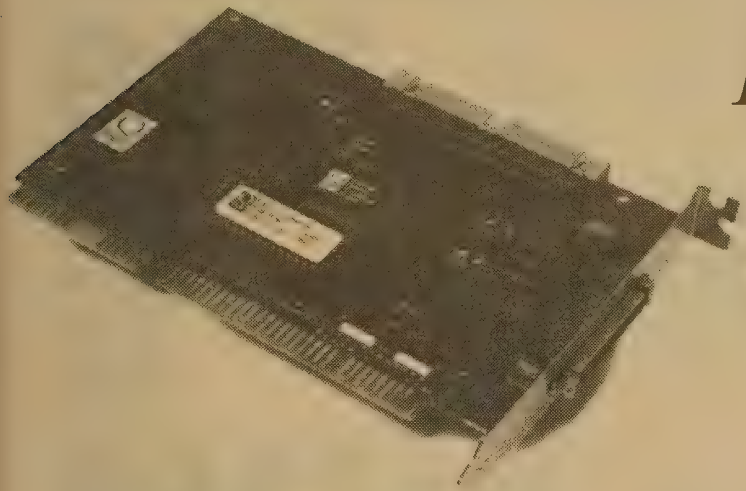
Q logic™

Fast!SCSI™ EISA



- Patented 400 Series high-speed SCSI Processor
- 16-bit PIO Data Transfer>4MB/Sec.
- Free CorelSCSI for CD-ROM and HDD included
- Comprehensive software support
- 50-pin internal SCSI Cable provided with support for up to three internal drives
- 5-Year Warranty

$219

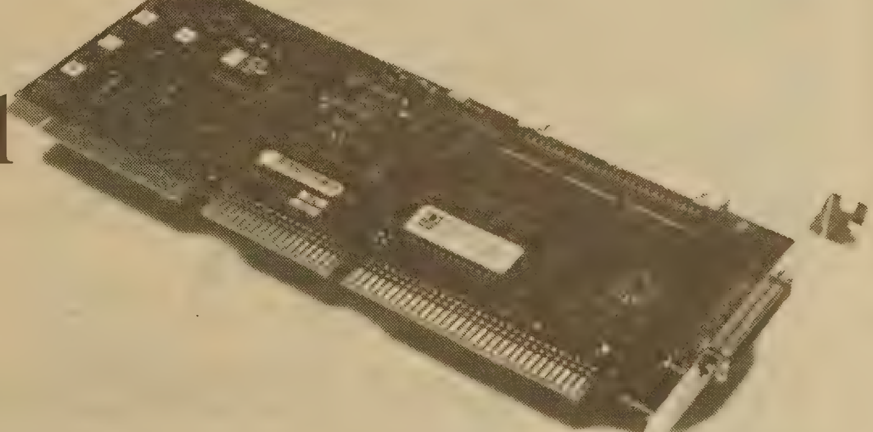


Fast!SCSI™ ISA

- Patended 400 Series high-speed SCSI Processor
- 16-bit PIO Data Transfer>3MB/Sec.
- Free CorelSCSI for CD-ROM and HDD included
- Comprehensive software support
- 50-pin internal SCSI cable provided
- Supports up to 7 SCSI devices
- 5-Year Warranty

$159

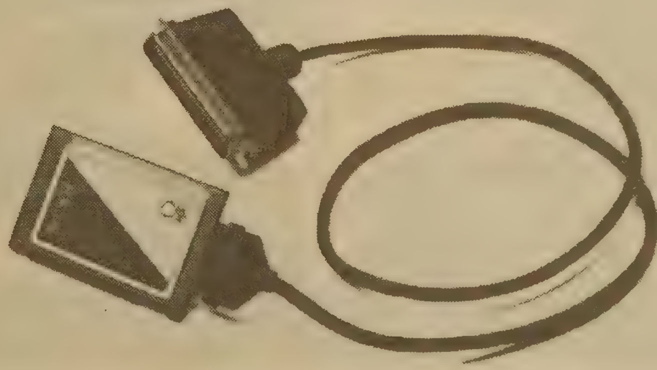
Fast!SCSI™ VESA Local



- Patended 400 Series high-speed SCSI Processor
- Supports 33MHz & 50MHz
- 32-bit VLB Host Data Transfer
- Free CorelSCSI for CD-ROM and Winchester drives
- 50-pin internal SCSI cable provided for up to 3 devices
- Comprehensive software support
- Supports up to 7 SCSI devices
- 5-Year Warranty

$199

Fast!SCSI™ PCMCIA



- Patended 400 Series high-speed SCSI Processor
- 16-bit PIO Data Transfer>3MB/Sec.
- Free CorelSCSI for CD-ROM and Hard Drive
- Occupies a single PCMCIA slot
- Comprehensive software support
- Supports up to 7 SCSI devices
- 5-Year Warranty

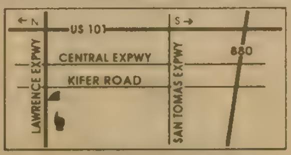
$199

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

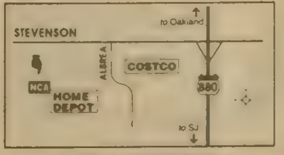
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA
CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

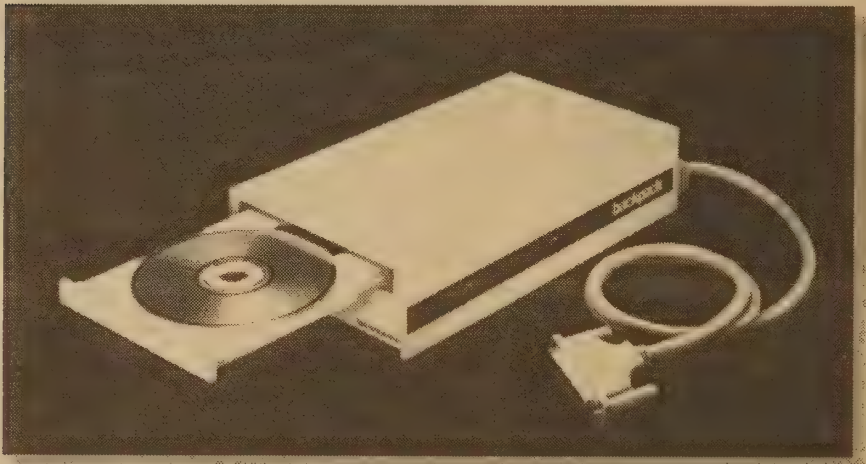
©1994 INVERSE CORPORATION

backpack

backpack
CD-ROM Drive

MicroSolutions

Double Speed Parallel port External CD-ROM Drive



- 250ms
- 300Kb/Sec
- Double Speed High Performance drive
- Ideal for Notebooks or Laptops
- Supplied Device Drivers
- Multi-Session Photo CD compatible

$399

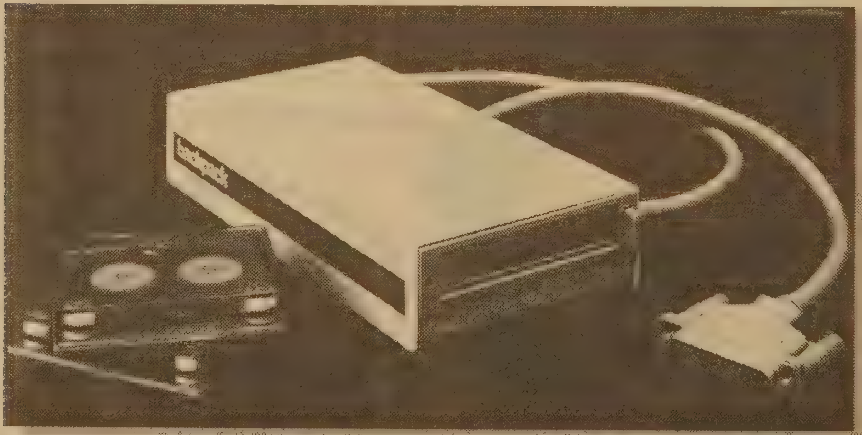
Parallel port External CD-ROM Drive

- 280ms
- 128K Cache
- MultiSession Photo CD compatible
- Ideal for Notebooks or Desktops
- Supplied Device Drivers
- Built-in audio circuit with line output jacks allows connection of sound cards or Hi-Fi

$365

backpack
Tape Drive

Parallel port 250MB External Tape Backup



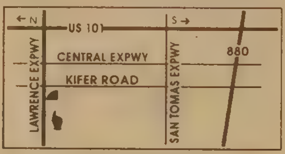
- QIC 80 uses 2120 tapes
- Software for unattended backups
- Twice as fast as internal floppy drive
- Multi-Session Photo CD compatible
- Window and DOS Software Included
- 2 Year Warranty

$365

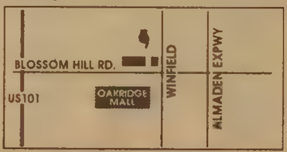
NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

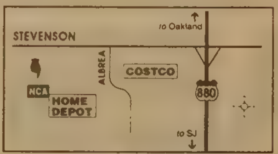
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS


← N
US 101
S →
CENTRAL EXPWY
KIFER ROAD
880
LAWRENCE EXPWY
SAN TOMAS EXPWY

▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420


BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610


to Oakland
STEVENSON
ALBREA
COSTCO
NCA
HOME DEPOT
880
to SJ

▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

CD ROM DRIVES

TOSHIBA - XM-3401B

WHILE SUPPLIES LAST

EXTERNAL SCSI 3401B

FOR PC OR MAC

- SCSI CD-ROM
- 200ms, 330KB/Sec
- Multi-Spin/Multi-Speed
- 256K Cache Buffer
- Kodak PhotoCD
- Caddy Included

$389

Optional MAC Software $10

INTERNAL **$339**

CHINON

Top of the line SCSI-II CD ROM

CD-535

- SCSI-II CD ROM
- Multisession Photo CD
- XA Compatible
- 256K Buffer
- 280ms
- Double Doors
- Sealed Mechanism

INTERNAL UNIT	INTERNAL KIT (with card & software)	EXTERNAL (for MAC & IBM Comp.)
$329	$379	$429

Panasonic

Office Automation OA

CR562 CD ROM & CARD

- Includes Audio Card & Controller
- 320ms / 300KB/sec
- 64K Cache
- Double Speed /XA Comp.

$199

SPEAKERS

RECOTON

AMPLIFIED SHIELDED STEREO SPEAKERS

Includes AC Power Adapter

64555 **$24.99**

Sheilded Stereo Speakers By **RECOTON** $9.99

64540

labtec

CS 150 Amplified Speakers $18.99
CS 180 2.5" 90 DEGREE PIVOT $22.99
CS 550 Amplified Speakers $27.99
CS1000 Under Monitor 5watt $89.99

GALLANT

GSP-1000 80watt amplified Speakers .$89.99

ROLAND

CS-10 Stereo MicroMonitor Speakers ..$119
12-A Stereo Speakers Hi Power $229

ALTEC LANSING

ACS50 Mini satellite $67.99
ACS100 Satellite, DSP circuitry $129.99
ACS300 Multipath acoustic chamber.........$279.99

Quality Sheilded Computer Speakers CP-55 ....$4.99

CD ROM CADDIES

$5.99 Ea.

SONY

NEW DOUBLE SPEED 300KB/SEC

33 CD ROM

- CONTROLLER CARD
- Cables and Software

$199

561 SCSI CD ROM

- Double Speed
- 285ms /300Kb/Sec
- 256K Cache

$369

NEC

SCSI CD ROMs

NEW TRIPLE SPEED:

SEE THE COMPLETE LINE OF NEC PRODUCTS ON PAGE 23

PIONEER®

High Speed CD-ROM MiniChanger, featuring QUADRASPIN™, 612Kbyte/sec

- External SCSI/SCSI-2 Subsystem
- 6 CD ROM Magazine
- Software for MAC or IBM
- 300ms
- FAST 612KBytes/Sec

DRM-604X

$1149

ORCHID

CDS-3110

- Double Speed
- 350ms /300Kb/Sec
- Interface Card & Cables

$188

SOUNDWAVE/CD Multimedia Kit

CDS-3110 w/ Software bundle
Sound Wave 32 Card

$390

AUDIO CABLES

For Most Popular CD-ROMs & Sound Cards

$5.99

PLEXTOR

Formerly Texel

High Performance SCSI-II CD ROM Drives

DoubleSpeed PLUS

- SCSI-II CD 3028
- *FAST* 240ms
- Multi-spin/330Kb/Sec.
- Caddy & Manual

$289

- DM-5028
- External W/Caddy

$379

TEXEL

Intenal
SCSI-CD ROM 3101

$139

Trantor T130 Controller with SCSI works..............$45

TEAC

CD-50

SCSI-II Fast CD ROMs

- DUAL SPEED
- 265ms / 335Kb/sec
- Multi-session photo CD
- Anti-dust Construction
- Caddy & Manual

$259

EXTERNAL.................................. $369

MITSUMI

- MULTIMEDIA CD ROM 350ms.
- INCLUDES 8-BIT CARD
- MPC READY / 350ms

$149

- Double Speed
- 250ms 300Kb/Sec
- Includes Card & Cables

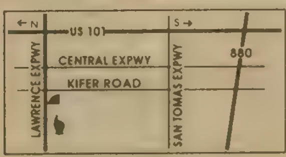
$199

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

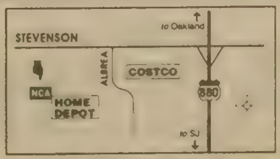
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

MULTIMEDIA

MEDIA VISION

Instant $25 Rebate on Selected Upgrade Kits
See store for more details

PRO AUDIO SPECTRUM 16 SOUND CARD

- True Stereo Sound
- Advanced 20 Voice Stereo Synthesizer
- MIDI/SCSI interface

$123

PRO AUDIO STUDIO 16 SOUND CARD

- True Stereo Sound
- Advanced 20 Voice Stereo Synthesizer
- MIDI/SCSI interface
- Voice Recognition
- Microphone & S/W

Reg. $195

$153

Pro Audio 16 Basic $88
16-Bit Digital Audio CD Quality Card

Pro 16 Multimedia System II

- **Includes Pro Audio Studio with Voice Recognition**
- **Multispin Double Speed high performance CD ROM**
- Karaoke, Compton's Int. Encylopedia, Mayo Clinic, Carmen San Diego, Civilization, Battle Chess, Mantis, Action.

REG. $779

$569

MEMPHIS External Multimedia System

Dual speed CD ROM and a high power CD Audio Player in one compact ergonomic design.
- Double speed SCSI Multisession photo CD Compatible Drive
- Includes 16-Bit Digital Audio Card & the most popular CD titles

Reg. $699

$639

DOUBLE FUSION LX

- ▶ Internal Double Speed 300KB/SEC
- ▶ 16 Sound Card
- ▶ Speakers and Most Popular CD ROM titles

$379

PRO 16 CD III - Triple Speed Upgrade Kit

- ▶ internal NEC tripple-speed 195ms SCSI CD ROM
- ▶ 16 bit sound card

$789

Fusion Double Speed 16

- ▶ Multimiedia Upgrade Kit

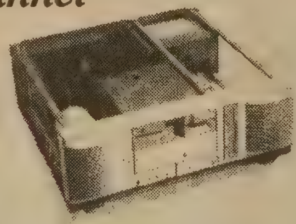
$483

EXTERNAL KIT FOR PRO AUDIO SPECTRUM	$49
PORTABLE PC SOUND AUDIOPORT	$129
MIDI MATE (EXTERNAL MIDI CONNECTOR BOX)	$48

MultiMedia Computer Case

30Watts per Channel

30 Watts of Power per Channel
Power Supply UL Rated
Four Drive Bays
Front Controls and Jacks
State of the Art Quatlity and construction



$159

NCA can Build your Unique Dream MultiMedia Machine to your Specs. We Offer More Options so you can have a choice.

CREATIVE
CREATIVE LABS, INC

SEE PAGE 21

AdLib®

PREMIUM SOUND BOARD MSC*plus*™

- ▶ 8-Bit Sound Card - 16-Bit Sound File Compatibility
- ▶ 4 Watt Amplifier
- ▶ Stereo Sound Files
- ▶ Game/Joystick Port
- ▶ FREE Windows Compatible Sound Recorder and Other Windows Accessories

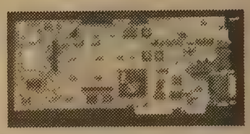
$58

GOLD 1000 STEREO SOUND BOARD

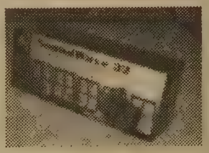
AdLib SOUND

- ▶ 22 Voice Stereo Sound
- ▶ Hi-Fi Digital Recording & Playback
- ▶ Built-In Amplifier
- ▶ 16-Bit FM DAC
- ▶ Voice and Music software, & Multimedia utilites included
- ▶ A Ton of Gold Software Included FREE!

$85



ORCHID



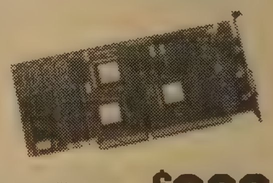
CD-ROM Drive & Interface Card	$188
CD-ROM Kit: CD ROM, Interface Card, & Sound Wave 32	$390
SoundWave 32 16-Bit Sound Card	$198
Game Wave 32 16-Bit Sound Card	$149

AZTECH

Sound Pro 16 upgrade Kit	$429
Sound Galaxy BX-II Extra	$59
Sound Galaxy NX-II Extra/NX Pro Extra	$79/$109
Sound Galaxy 16 Basic	$129

SIGMA DESIGNS

SEE PAGE 13



REELMAGIC THEATER QUALITY VIDEO & CD QUALITY AUDIO

- ▶ Plays Video CD feature films on your PC
- ▶ On-board MPEG Video and Audio Decomporession - 16-Bit Sound Capability
- ▶ 32,768 Color in any mode - 30 fps - Full screen Size - Includes popular Games

$389

ViVà

Maestro 16 16-Bit Stereo Sound Card **$149**
44MHz Record/Playback, SCSI Port, and MIDI Port, & Software

Maestro 16VR 16-Bit Stereo Sound Card, w/Voice Recognition **$169**
44MHz Record/Playback, SCSI Port, and MIDI Port, & Software

DIAMOND

SONIC SOUND 16-BIT CD QUALITY SOUND CARD

- ▶ Digital Signal Processor with Wave Sample; 32 voice synthesis
- ▶ Hardware controlled voice recognition; standard SCSI-II CD ROM interface
- ▶ 3 Software Bundle

$199

AITech

AUDIOSHOW AUDIO & VIDEO

- ▶ VGA to PAL or NTSC; converts computer's output to TV or Video tape
- ▶ 16-Bit Stereo Audio with 4-Watt amplifier; CD Quality recording
- ▶ CD ROM interface. Joystick port, MIDI In/Out and built-in amplifier

$349

LOGITECH

SOUND MAN 16

16-Bit - Advanced 20 Voice Stereo Synthesizer

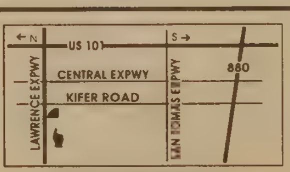
$98

NCA Computer Products

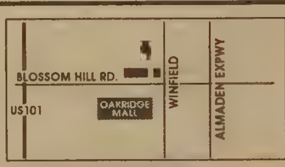
Your Computer Product SUPERMARKET

PURCHASE ORDERS

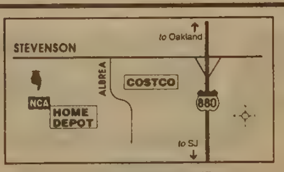
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

SIGMA DESIGNS®

ReelMagic

ReelMagic
THEATER QUALITY VIDEO
CD QUALITY AUDIO
FOR PC COMPATIBLES
SIGMA DESIGNS
FIVE 5 YEAR
WARRANTY

ReelMagic Transform Your PC into a Multimedia System

ReelMagic™ , the exciting new MPEG playback controller, gives you spectacular real-motion, full-screen full-color video and CD-quality stereo audio all on you PC.

The controller by Sigma Designs is available alone or as a complete multimedia CD ROM Upgrade Kit. The board alone comes with an easy-to-use installation program, a full array of drivers and system software, utilities, and a new ReelMagic compatible version of *Return to Zork* from Activision.

The ReelMagic CD-ROM Upgrade Kit includes everything listed above, plus a high-performance, MPC Level 2 compliant CD-ROM drive, and a set of two 3.5 watt, 3" shielded computer speakers. Also included are three CD titles form Aris Entertainment: *MPC Wizard, WorldView* and *Video CubeSpace*. And look for the ReelMagic compatible logo on the newest software titles to see if they give you the next generation advantage.

Play CD-I Movies
Rent at your local BLOCKBUSTER

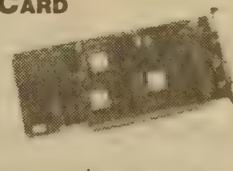
ReelMagic Complete Multimedia Upgrade Kit

Double Speed MPC 2 Compatible CD ROM
High Quality Speakers
Bundle CD ROM Titles
ReelMagic Controller Autdio Video Card

$689

ReelMagic Theater Quality Video & CD Quality Audio Controller Card

Theater Quality Video 30 frames/sec.
Over 32,000 Colors
CD Quality Stereo Audio
Full Screen Video
Run a New Generation of PC Software
Play Video CDs
Enhance Your Windows Presentations
Position Your PC for The Future
CD ROM Interface

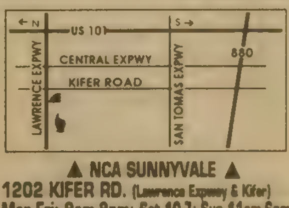


$389

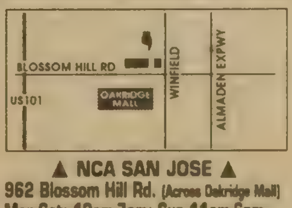
NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

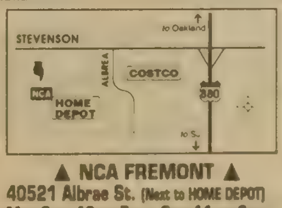
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS


N
US 101
S
CENTRAL EXPWY
KIFER ROAD
880
LAWRENCE EXPWY
SAN TOMAS EXPWY

▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420


BLOSSOM HILL RD
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610


STEVENSON
to Oakland
ALBREA
COSTCO
NCA
HOME DEPOT
880
to S.

▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. Fax(408) 739-2420

Mail Order Dept.
Call (408) 522-3050

©1994 INVERSE CORPORATION

CREATIVE
CREATIVE LABS, INC

Sound BLASTER

Presenting the Complete PC Multimedia Solution

DIGITALEDGE CD™

- Sound Blaster 16 with ASP Chip
- Creative Labs Double Speed CD ROM
- Microphone included
- High quality Stereo speakers:
- The most valuable CD ROM titles Bundle includes
  - Aldus PhotoStyler, Macromedia Action digital Video Software Toolworks Multimedia Encyclopedia, Authorware Star, Microsoft Works for Window, Microsoft Bookshelf

$699

OMNI CD™

Creative Labs Double-Speed CD ROM Drive
CD-ROM interface card and cables
Includes FREE Aldus PHOTOSTYLER software

$279

INSTANT $70 INSTORE REBATE

Applied towards price, **Rebate Price $209**

EDUTAINMENT CD 16™

- Stereo Speakers
- Sound Blaster 16, 16-Bit stereo sound Card
- Creative Labs Double-Speed internal CD ROM drive
- CD ROM Software Bundle Includes: Software Toolworks Multimedia Encyclopedia, The Animals, Lucasfilm Games (4 games) Brouderbund where is the World is Carmen Sandiego, Just Grandma and Me, Simulations Sherlock Holmes Detective.
- Windows 3.1 and OS/2 2.0 Compatible

$469

DISCOVERY CD™ 8

- Sound Blaster Pro Deluxe
- Creative Labs Double Speed CD ROM Drive
- Stereo Speakers
- CD Software Bundle includes:
  - Software ToolWorks Multimedia Encyclopedia The Animals, and Lemmings
- Window 3.1 and MPC Compatible

$359

Sound Blaster Deluxe: 8-Bit Sound Card With software	**$67**
Sound Blaster Pro Deluxe: Stereo Sound Card, CD ROM Interface	**$109**
Sound Blaster 16 Basic:	**$129**
Sound Blaster 16 MultiCD/with ASP	**$168/199**
Wave Blaster	**$179**
Video Spigot	**$249**
Video Blaster	**$319**
Sound Blaster 16 SCSI-II/with ASP	**$185/205**

Cardinal®

SENSORY SYSTEM I

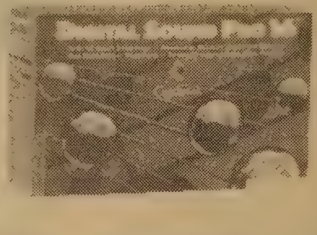
Multimedia Upgrade Kit

- ▲ Digital Sound Pro 16, PC Sound Card
- ▲ Sony CD-ROM Drive, Double-Speed, Internal
- ▲ Amplified Stereo Speakers
- ▲ Voyetra Sound Software Collections
- ▲ Five, Super-Hot CD-ROM Titles

$439

Digital Sound Pro 16

- ▲ True 16-Bit Stereo Sound
- ▲ Stereo Music Synthesizer
- ▲ Eight (8) Watt Power Amplifier
- ▲ CD-ROM Interface
- ▲ Easy, Switchless Operation



$109

DIGITAL SOUND PRO 16

Digital Sound Pro 16 Plus

Every performance enhancing featured of the DSP16 with a 16 bit SCSI CD-ROM interface and MIDI cable adapter. **$148**

DSP 16 Wave Upgrade Kit

- ▲ For DSP 16 and DSP 16 Plus Sound Cards
- ▲ Includes General MIDI
- ▲ 128 Instruments
- ▲ Super Jam Software

$59

WARPSPEED

- ▲ Local Bus Windows Accelerator
- ▲ 32-Bit Graphics Co-Processor
- ▲ 24-Bit True Color - 1MB Video Memory

$359

VideoSpectrum XL

True-Color 24-Bit Window Accelerator 1MB **$129**

VideoSpectrum

True-Color 24-Bit Ultra VGA Adapter with 1MB **$119**

VideoColor

SuperVGA Adapter, 1MB, 1024X768, 256 Colors **$99**

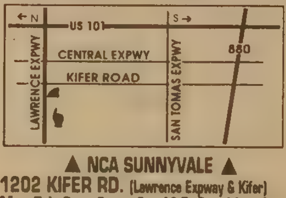
Super VGA Cards

NCA Computer Products

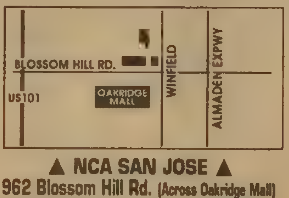
Your Computer Product SUPERMARKET

DISCOVER · AMERICAN EXPRESS · MasterCard · VISA · PURCHASE ORDERS

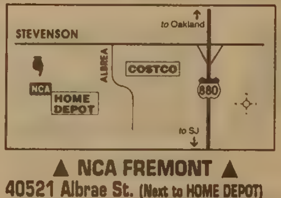
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

CD ROM TITLES

OVER 400 CD ROM TITLES IN STOCK AT ALL LOCATIONS

Including: Adventure, Games, Educational, Children's, and many more...

CHOOSE ANY OF THE FOLLOWING CD TITLES FOR ONLY...

16-BIT SOUND MASTERPIECE
3D ANIMANIA
49ER WINDOWS GAMES
ACS SELECTWARE
ADVENTURES FROM HEAVEN
ALL YOU CAN PLAY
BIBLES & RELIGION
BRAIN DRAIN
BUSINESS ASSISTANT
CALIFORNIA COLLECTION
CLIP ART LIBRARY
CLIPART HEAVEN
CLIPART WAREHOUSE
COMMUNICATION MASTER
COMPLETE BOOKSHOP
COMPLETE HOME & OFFICE LEGAL GUIDE
COMPUFIX
COMPUTER REFERENCE LIBRARY
COMPUTER SUPERMARKET
COOKBOOK HEAVEN
DEATHSTAR ARCADE BATTLES
DICTIONARIES & LANGUAGES
ENCYCLOPEDIA OF SOUND
FAMILY FUN
FONTMASTER
FUTURA
GAME ARENA

GAME JAMBOREE
GAMES GALORE
GARDENING
HAM RADIO
HUGO S HOUSE OF HORRORS
JOKES & PRANKS
LEARN DOS FOR FUN
LEARNING ADVENTURE
LEARNING HEAVEN
LET S PLAY
MAC SHAREWARE
MIRROR-MIRROR
MOTHER OF ALL CLIPART
OLDIES BUT GOODIES
OPEN DOS
ORIGINAL SHAREWARE
OUR SOLAR SYSTEM
PHOENIX 3.0
PROGRAMMER POWER TOOL
PUZZLEMANIA
SHAREWARE HEAVEN
SNEAK PEEKS
SOFTWARE VAULT
SOUND LIBRARY 2
SOUND SENSATIONS
STRAIGHT FROM HEAVEN
SUPER CD 1

SUPER CD 2
SUPER CD 3
SUPER CLIPART
SUPER FONTS
SUPER GAMES FOR DOS
SUPER GAMES FOR WINDOWS 2
SUPER GAMES FOR WINDOWS 1
SUPER PROGRAMMER
TECHNOTOOLS
TOO MANY TYPE FONTS
TOP 101 GAMES
TOP 101 SHAREWARE PROGRAMS
TRAVEL TO SPACE
VARIETY STORE
VGA SPECTRUM 1
WINDOWARE
WINDOWS AT ITS BEST
WINDOWS SOFTWARE TREASURY
WORLD OF EDUCATION
WORLDTRAVELER

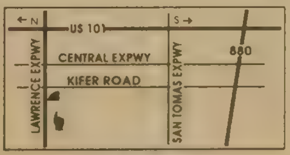
$9.99

VISIT ANY OF OUR SHOWROOMS TODAY

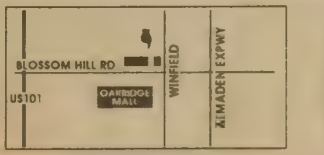
NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

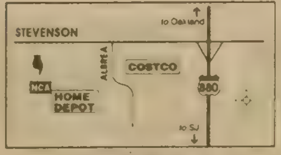
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

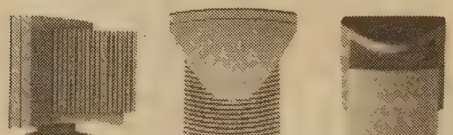
MAIL ORDER DEPT.
Call (408) 522-3050

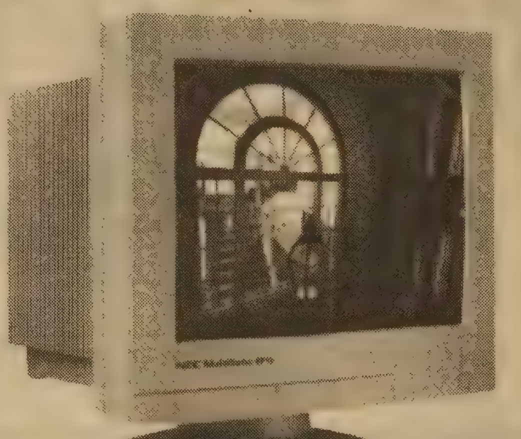
㉒

©1994 INVERSE CORPORATION

NEC

MONITORS

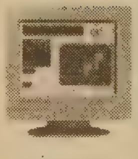




HERE'S THE LINE-UP

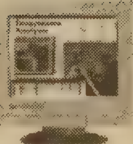
JC-1431
14", .28dpi
Non-Interlaced
1024X768
$329

3V
15",.28mm dot pitch
Non-Interlaced
Flat square screen.
1024X768 @ 60Hz
$523



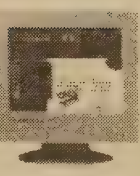
3FGe
15", .28dpi
XGA-2 compatible
1024X768
$565

4FGe
15",.28mm dpi, anti-static, flat square screen.
1024X768 @ 76Hz
$663



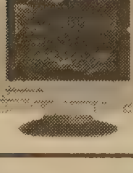
5FGe
17",.28mm dot pitch,
anti-static,
flat square screen.
1024X768 @ 76Hz
$1045

5FG
17",.28mm dot pitch,
anti-static, flat square screen.
1280X1024 @ 74Hz
$1299



5Gp
17",.28mm dot pitch,
anti-static,
flat square screen.
1280X1024 @ 60Hz
Opticlear Surface
$1293

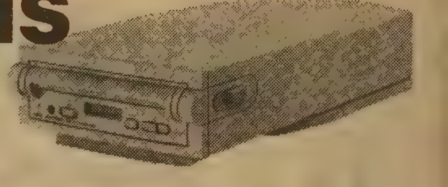
6FG
21",.28mm dot pitch,
anti-static,
flat square screen.
1280X1024 @ 74Hz
$2293



6FGp
21",.28mm dot pitch,
anti-static,
flat square screen.
1280X1024 @ 74Hz
Opticlear Surface
$2393

Anti-Glare Screens Available

CD-ROMS



3Xi **$499**
- ▲ Internal SCSI CD ROM
- ▲ 450Kb/Sec. Transfer Rate
- ▲ 190ms Seek Time

3Xe **$565**
- ▲ Above External SCSI CD ROM

3Xp **$428**
- ▲ Portable SCSI CD ROM
- ▲ 450Kb/Sec. Transfer Rate
- ▲ 240ms Seek Tim

SYSTEMS

Upgradable To Pentium™

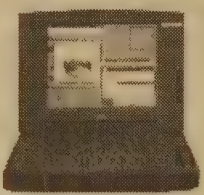
Multimedia System for Small-Business and Home Users

READY 433-CD3
Intel 486SX, 33MHz
4MB RAM exp. to 36MB
250MB Hard Drive
NEC 3xi triple speed CD ROM drive
Multimedia Software, DOS, Windows
96/48 Fax , 24 data modem
Labtec CS-800 Stereo Speakers
Microphone & Headphones
Ultra-fast Local Bus Graphics
Keyboard & Mouse

Ready To Plug-n-Play

$1845

Versa™ E Series Notebooks

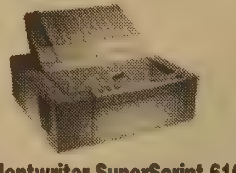


SL Enhanced i486™ DX2
8KB Cache
Built-in Numeric Coprocessor
4MB RAM Exp. to 20MB
2 PCMCIA Slots
TFT Active-Matrix Color Screen
User Removable/Reversible Screen
MS-DOS, Windows Preloaded
1 Year UltraCare Warranty
3 Year Standard Return-To-Factory Warranty

PEN BASED Available!

40MHz 250MB HDD $4299
50MHz 209/340MB HDD.............................$4499/$4865
WE CARRY A COMPLETE LINE OF ACCESSORIES FOR THE VERSA NOTEBOOKS

PRINTERS



Silentwriter 640
The Laser printer for the Macintosh
6ppm
300dpi laser quality
3MB RAM
Level 2 PostScript
17 resident Adobe scalable
35 TrueType fonts
$775

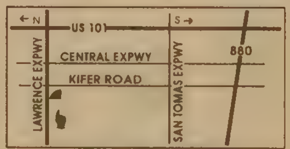
Silentwriter SuperScript 610
A Windows-based laser Printer
6ppm
300dpi laser quality
Uses memory from system CPU
14 Window TrueType fonts
20 NEC TrueType fonts
$575

Silentwriter 1097
600 DPI Postscript
10ppm
600dpi laser quality
7MB RAM
Level 2 PostScript/PLC-5
35 resident Adobe scalable
14HP Laserjet III fonts
$1395

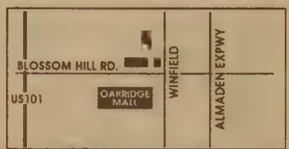
NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER · AMERICAN EXPRESS · MasterCard · VISA · PURCHASE ORDERS

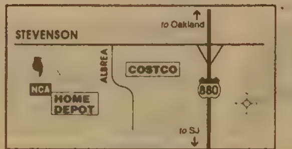
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expwey & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government,
Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

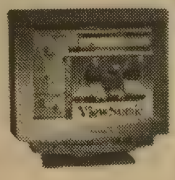
©1994 INVERSE CORPORATION

VIDEO MONITORS

ViewSonic®

State of the Art

The New Generation



ViewSonic-15 ViewMagic
- 15" RGB Color Monitor
- 1280X1024
- Non-Interlaced
- 1024X768 @ 76Hz
- Flat Screen

$449

ViewSonic-17
- 17" RGB Color Monitor
- 1280X1024 @ 76Hz, .27dpi
- Non-Interlaced
- Flat Screen

$973

ViewSonic-20
- 20" RGB Color Monitor
- 1600X1280, .28dpi
- Non-Interlaced
- Dual Page Display

$1572

ViewSonic-21
- 15" Color Monitor
- 1280X1024 @ 76Hz, .27dpi
- Non-Interlaced
- Flat Screen

$1823

MGC

MGC 15
- 15" Color Monitor
- 1024X768, .28dpi •Non-Interlaced
- Flat Screen, XGA High Res.

$389

MGC 14 Black
- 14" Color Monitor (black model)
- 1024X768, .28dpi •Non-Interlaced

$289

SAMSUNG

Electronics

SyncMaster-15C 15" MultiSync....$445

SyncMaster-5+ 17" 1280X1024 ..$895

NOKIA

Engineered in Europe for the World

Workstation & CAD Quality Monitors

NEW!

449E 15"
- 15" Color Monitor
- 1024X768
- Non-Interlaced
- 80MHz Refresh Rate

$517

447B 17"
- 17" Color Tinitron Monitor
- 1280X1024
- Non-Interlaced
- 110MHz Refresh Rate

$973

445M 21"
- 21" Color Tinitron Monitor
- 1280X1024
- Non-Interlaced
- 120MHz Refresh Rate

$2699

445X 21"
- 21" Color Tinitron Monitor
- 1600X1024
- Non-Interlaced
- 120MHz Refresh Rate

$2699

NCA

Quality SVGA Monitors

14" Non-Int. SVGA 1024X768 .28dpi.....$259

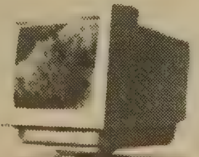
15" Non-Int. SVGA 1280X1024.28 Flat .$349

MiTAC

Affordable Quality Monitors

15" SVGA
- 1280X1024
- .28dpi
- Non-interlaced
- Flat Screen

$369



14" XGA Non-Int. 1280X1024 .28dpi............$289

15" SVGA Non-int. 1280X1024 ViewMagic....$399

NANAO®

PROFESSIONAL VIDEO DISPLAY

F340iw
- 15" Color Monitor
- 1024X768
- Non-Interlaced
- Flat Screen

$539

F760i
- 21" Color Monitor
- 1280X1024 @ 74Hz
- Non-Interlaced
- Flat Screen, .31dpi

$2095

F550i 17" Non-Int. 1280X1024, .28dpi $939

F550iw 17" Non-Int. 1280X1024, .28dpi.........$1093

F560iw 17" AKA: the "Green Monitor"...........$1323

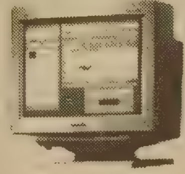
T560i 17" Non-Int. 1280X1024, .25dpi $1623

T660i 20" Trinitron Tube 1280X1024, .28dpi...$2073

SONY

CPD 1430
- 14" Color SVGA Monitor
- 1024X768, .25dpi
- Non-Interlaced

$499

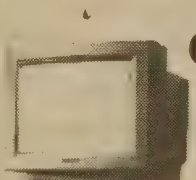


GDM-17SE1
- 17" Color Monitor
- 1280X1024 @ 72Hz, .25dpi
- Non-Interlaced

$1173

CPD 1730
- 17" Color SVGA Monitor
- 1024X768, .25dpi
- Non-Interlaced

$944



GDM2038
- 20" Color Monitor
- State of the art
- 1280X1024 @ 72Hz
- .25dpi
- Non-Interlaced

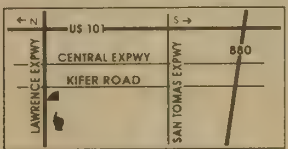
$2189

NCA Computer Products

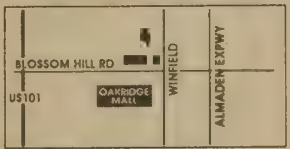
Your Computer Product SUPERMARKET

PURCHASE ORDERS

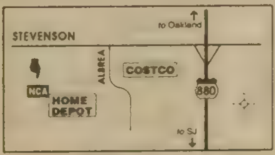
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

㉔

©1994 INVERSE CORPORATION

VIDEO CARDS

Hercules *The Fastest Real-World Windows Accelerator*

Blazing 32-Bit Accelerator for Windows and AutoCAD High Refresh Rate - Dual Ported VRAM. 2-Year Warranty

HG210	Graphite Card 1MB VRAM ISA Bus	$249
HG310	Graphite Pro 1MB (exp. -2MB) ISA	$279
HG420	Graphite Pro 2MB ISA Bus	$409
HG610	Graphite VL Pro 1MB (exp. -2MB) VLB	$289
HG720	Graphite VL Pro 2MB VLB	$409

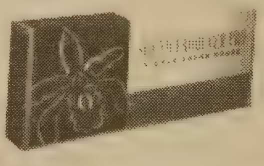
matrox

HIGH-PERFORMANCE GRAPHICS ACCELERATOR

Revolutionary 64-Bit Architecture - DynaView 2D & 3D - Refresh Rate Up To 80Hz.

MGA ULT2VH Ultima AT 2MB 1600X1200 Capability	$499
MGA ULT2AH Ultima VLB 2MB 1600X1200 Capability	$499
MGA IMP3AH Impression AT 3MB 1600X1200 Capability	$739
MGA IMP3V Impression VLB 3MB 1280 x 1024 at 24-bit	$739
MGA IMP 3VH Impression 3MB 1600X1200 Capability	$799
MGA PCI/2 2MB up 1280 x 1024	$459
MGA PCI/2 Plus 2MB 1600X1200 Capability (upgradable)	$539

ORCHID



Kelvin 64

64-Bit Windows Graphics Accelerator up to 1280X1024 & 16 Million Colors VLB & PCI Version	$209
Fahrenheit VA VA/VLB 1MB / 2MBVA	$169/$199
Fahreheit 1280° Plus ISA1MB/VESA 2MB	$149/$199
Celsius VLB 1MB/2MB	$199/$261

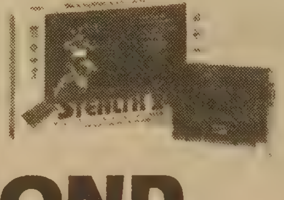
Number Nine
Computer Corporation
Excellence in PC Graphics

9GXe World's Fastest Graphics Accelerator Engine 86C928 Chip Based

9GXe Level 10 ISA 1MB VRAM	$255
9GXe Level 11 ISA or VESA 2MB VRAM	$349
9GXe Level 12 ISA or VESA 3MB VRAM	$413
9GXe Level 14 ISA	$599

9GXi Graphics Powerhouse Bases on Ti TMS 34020

9GXi Lite Level 20 1MB VRAM	$539
9GXi Lite Level 21 1MB VRAM /1MB DRAM	$699
9GXi Level 23 ISA or MCA 1MB VRAM/1MBDRAM	$999
9GXi Level 25 ISA or MCA 2MB VRAM/1MB DRAM	$1269
9GXi Level 29 4MB VRAM 1MB DRAM	$1389
15-Pin To 5BNC Monitor Cable	$89



DIAMOND

Stealth Pro 1MB/2MB ISA	$243/$339
Stealth Pro 1MB/2MB VLB	$253/$339
SpeedStar Pro VESA or ISA	$\$119^{99}$
Stealth 24 VESA or ISA 1280X1024	$\$141^{99}$
Viper VLB 2MB VRAM Accelerator	$\$369^{99}$
Viper PCI 2MB VRAM Accelerator	$429

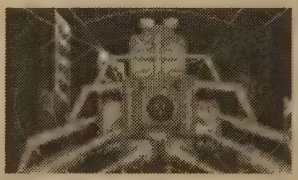
Genoa
SYSTEMS CORPORATION

8500VL turbo PCI $109
VESA LOCAL BUS - 16.7 Million Colors, 32Bit

Phantom 32i 2MB •NEW• ..$219
8900 Series VESA Local Bus Graphics Accelerator

Phantom 32i PCI 2MB...$249

SPiDER.
Graphics, Inc.



SPiDER 32VLB 1280X1024 in 256Colors 1MB/2MB DRAM	$95/$139
SPiDER 32VLB Plus 1280X1024 in 256Colors. Newer and faster 1MB/2MB DRAM	$119/$169
BLACK WiDOW VLB ITT AGX-015; XGA Graphics Engine. Fast VRAM. 1MB/2MB VRAM	$189/245
BLACK WIDOW ENGINE ISA/16-bit Fast VRAM, On-the-fly resolution& refresh. 1MB/2MB VRAM	$179/239

MEDIA VISION

ProGraphics 1024

True 1024X768 windows accelerator, 16.7 Million Colors, Multimedia Upgradeable, Fast film accelerated movie playback, MVV452, 72-Bit processor engine. 2.25MB VRAM

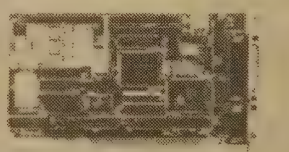
VLB $399

ProGraphics 1280 VLB

True 1280X1024 VLB, 4MB VRAM Standard, 24-bytes/pixel, 16.7Million True Colors, MVV451 Graphics Processor

$678

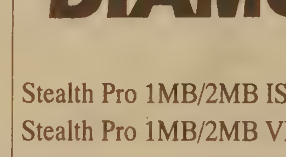
SVGA VIDEO CARDS



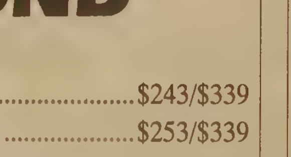
SVGA 256K Video Card	$\$29^{99}$
SVGA 512K 1024X768	$\$44^{99}$
SVGA 1024K 1024X768	$\$59^{99}$
SVGA VESA Local Bus	$\$79^{99}$
Fast View VLB 2MB Win. Accel. Card AMI	$359

NCA Computer Products
Your Computer Product SUPERMARKET

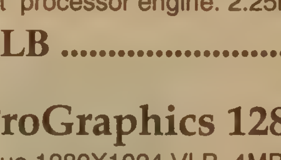
DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

RICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS

©1994 INVERSE CORPORATION

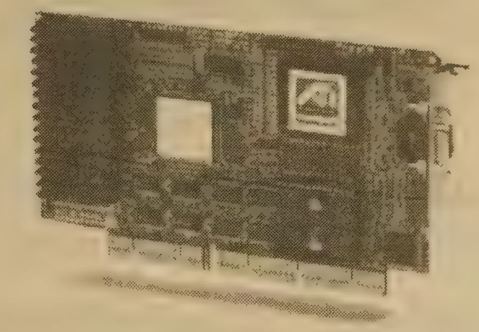
ATi VIDEO CARDS

ATi TECHNOLOGIES INC.

Graphics Wonder

- 1MB Memory
- Graphics Accelerator
- Up to 16.7 Million Colors
- Brilliant Colors at up to 1280 x 1024
- 76Hz Flicker-free Display
- Full Hardware compatibility with IBM 8514/A

$159 ISA or VESA



Graphics Ultra Pro

Professional Graphics and Multimedia Video for the Uncompromising User

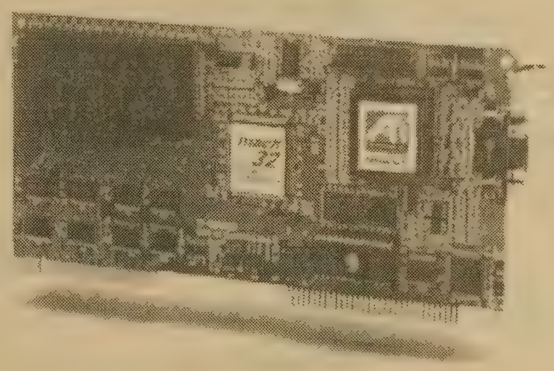
- **ISA version** Mach32 Graphics Accelerator
- 2MB VRAM
- Non-interlaced 1280X1024 Resolution
- Accelerated 65,000 Color Graphics plus True-Color
- Multimedia Video Acceleration
- Multiple Bus Support
- 76Hz Flicker-free Display
- 2.0MB Video Memory
- Zero Wait-state VGA

$369

With ATi Bus Mouse $398

Graphics Ultra Pro 2MB EISA.........$399

Graphics Ultra Pro 2MB VLB.......$399

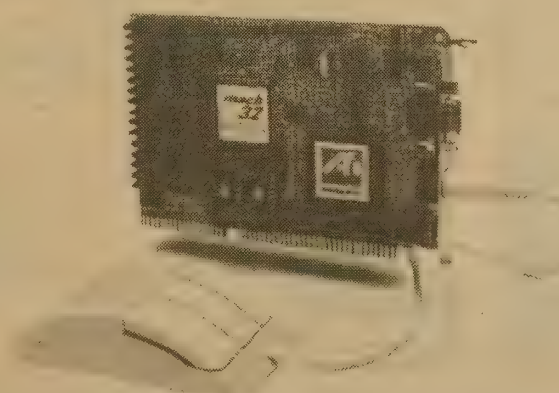


Graphics Ultra+

No Compromise Graphics for Windows and Multimedia Video

- **ISA version** Mach32 Graphics Accelerator
- 2MB VRAM
- Accelerated 65,000 Color Graphics plus True-Color
- Multimedia Video Acceleration
- 76Hz Flicker-free Display
- Zero Wait-state VGA
- Complete Window Control
- Complete Driver Support
- Register Compatible

(Mouse not included)



$225

With ATi Bus Mouse $254

MEDIAMERGE™

NEW!

COMPLETE VIDEO EDITING SOFTWARE FOR WINDOWS
easy-to-use editors are designed to interact with your creativity on any level you choose.

Includes:
•SCENE EDITOR
Start the creative process
•TEXT EDITOR
Bring your words to life
•AUDIO EDITOR
Develop sound ideas
•STORY EDITOR
Get the big picture
•MEDIA PLAYER
Ready...cue...playback...
Your video creation
•TRANSITION EFFECTS
Wipe, dissolve, fade, WOW!

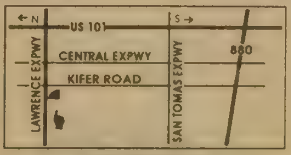
MICROSOFT. WINDOWS.

$155

NCA Computer Products
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

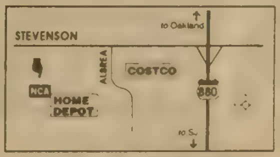
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

FAX/MODEM

Supra Corporation

SupraFAXModem

14,400 bps Fax, 14,400 bps Data/V.42bis / MNP5
57,600 bps throughput/ Class 1 Fax, Caller ID

UNLOCK THE WORLD OF DESKTOP COMMUNICATIONS™

14.4I Internal

14.4 Fax/Modem for PC

Software Included:
COMit™ (DOS & Windows)
WinFax Lite™ (Windows), FaxTalk® (DOS)

$129

14.4LC External

14.4 Fax/Modem for PC

Software Included:
COMit™ (DOS & Windows)
WinFax Lite™ (Windows), FaxTalk® (DOS)
Cables & Manuals

$149

144LC Ext. MAC

14.4 Fax/Modem for MAC

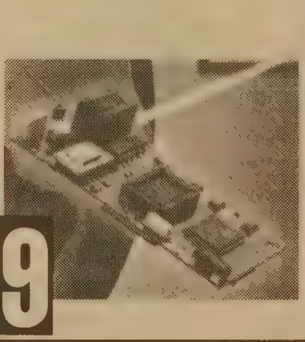
- Software Included:
  Microphone LT, FAXstf™
  CompuServe Information Manager™
- ARA™ Scripts
- Cables and Manual.

$159

144PB Int. MAC

14.4 Fax/Modem for PowerBooks

- 14,400bps FAX/DATA
- V.42bis/MNP 5 • 57,600 bps Max Throuput
- Caller ID, SilentAnswer™
- Works in PowerBook Models 100-180
- Software Includes:
  °Microphone™ LT
  °FAXstf™
  °Compuserve
  °Information Manger™
  °ARA Scripts • Manuals



$279

MADE IN USA
P.C. LOGIC™

Fax MODEM

14,400bps FAX/MODEM

MNP 5 / V.42bis

▶ With Quick Link II FAX/Communication for DOS

MADE IN AMERICA

INTERNAL

$179

External.... $199

▶ With Windows Ver. DOS Software with Prodigy Kit

INTERNAL

$189

▶ 2400bps FAX Modem (9600bps FAX Send&Receive) with Windows Ver. Software & Prodigy Kit

INTERNAL

$69

Hayes® EXTERNAL 2400 BAUD MODEM

WITH SOFTWARE **$39**

EVERY EXTERNAL 14.4 MODEM NEEDS

WONDER 16550 IDE CARD

2 IDE DRIVES/2 FLOPPY
2 HIGH SPEED 16550 SERIAL PORTS
1 PARALLEL PORT / 1 GAME

$79

PORT-FOLIO 16550

13-Port Super I/O Card
4 INTEGRATED NS16550 HIGH SPEED UARTs

QUICKPATH

2 IDE HD
2 Parallel
4 Serial
4 Floppy
1 Game

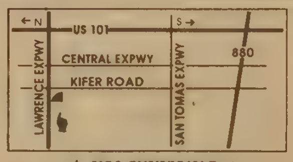
$129

NCA Computer Products

Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

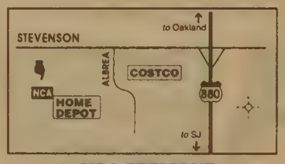
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government,
Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

FAX/MODEM

USRobotics®

The Intelligent Choice in Data Communications

HIGH SPEED FAX/MODEMS

SPORTSTER 14,400 V.32/V.42

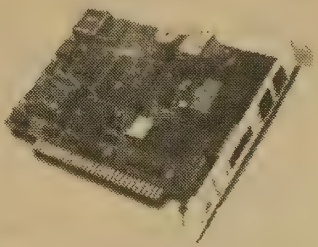
WITH WINFAX LITE SOFTWARE

FREE The Sierra Network Start-up Kit
- First 3 hours of access free
- 4 3.5"-disk set

The Sierra Network®

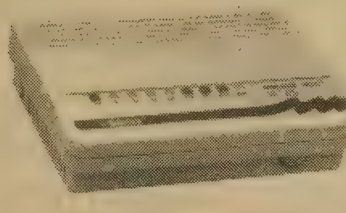
INTERNAL for PC

$145



EXTERNAL for PC

$163



14.4 MAC & FAX FOR MACINTOSH

mac&fax SPORTSTER®

$189

intel®

FAX/MODEM Group III FAX V.32bis 14,400 bps data Includes WinFax Software.
5-Yr. Warranty

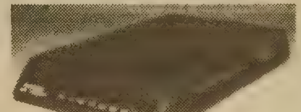
14.4 Internal Fax/Modem **$146**

14.4 External Fax/Modem **$166**

SatisFAXtion 400™ 14.4 Fax/Modem • MNP5/V.42/V.32

Internal $266 **External 44e $319**

GVC® The Name You Can Trust **14.400bps**



Introductory Price. Limited Time.

FAX/MODEM Group III FAX V.32bis 14,400 bps data Includes WinFax Software. 5-Yr. Warranty

Internal 14.4 for PC **$129**

External 14.4 PC or MAC **$149**

COMPUTERPERIPHERALS, INC.™

ViVa 14.4/Fax

14,400 bps V.32/V.42 bis Modem
with 14,400 bps SEND/REC. FAX
with DOS and WINDOWS Ver. Communication Software

- 100% Hayes Enhanced AT Command Set Compatible
- V.32bis (57,600 bps Maximum throughput speed
- V.42bis and MNP 5 data compression/MNP 2-4 error Correction
- Auto-baud negotiation • Auto COM Port detection
- WYSIWYF (what you see is what you fax)
- Near laser printer quality output with PCL4 support

INTERNAL	EXTERNAL	VIVA 14.4-MAC
$115	$149	$189 With *FAXsft* Software

ViVa 14.4 Pocket FAX-MODEM

14.4 bps pocket size modem with 14,400 bps SEND/REC. Fax
Includes: WINFAX
& Communication Software

$238

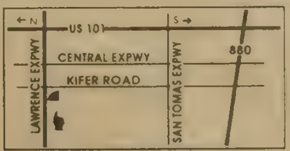
VOICE MESSAGING, FAX, MODEM....................$109

NCA Computer Products

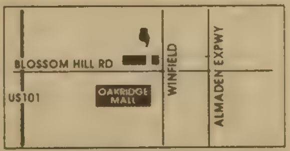
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

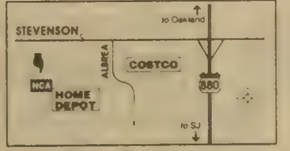
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expwy & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

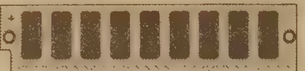
MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

BOARDS, RAM, ETC...

MEMORY SIMMS

IBM COMPATIBLE



256X9	80ns	3Chip	$Call
1MBX9	80ns	3Chip	$Call
1MBX9	80ns	9Chip	$Call
1MBX9	70ns	3Chip	$Call
1MBX9	70ns	9Chip	$Call
1MBX9	60ns	3Chip	$Call
1MBX9	60ns	9Chip	$Call
4MBX9	80ns	9Chip	$Call
4MBX9	70ns	9Chip	$Call
4MBX9	60ns	9Chip	$Call
16MBX9	70ns	9Chip	$Call

MEMORY SIPPS

1X9/70	$Call
1X9/60	$Call

INTEL CPUs

486DX-33MHz	$Call
486DX-50MHz	$Call
486DX/2-50MHz	$Call
486DX/2-66MHz	$Call

LASER PRINTER MEMORY

HP laser Jet 4 & 4M HEWLETT PACKARD

4MB	$Call
8MB	$Call

HP Laser Jet IIP, III, IIID HP IIIsi

OTHER LASER PRINTERS

PANASONIC P4410/4430 Printers
Compaq Page MRQ Printers
EPSON Action II Printers
OKI 400 Printers & NEC Printers

PCMCIA

FlashCard

PCMCIA Mass Storage For Mobile Computers

Seagate

SunDisk

The Solid Advantage

☐ **HP 95LX**
☐ **GRiD Convertible 386/486**

KIT INCLUDES:
FlashCard, Communication Cable, Software Drivers

2.6MB FlashCard Kit	$399
5.2MB FlashCard Kit	$499
10.4MB FlashCard Kit	$749

☐ **HP 100LX/OmniBook**
☐ **EO Personal Com. 440/880**
☐ **NCR 3170 Safari***

FlashCard Only, No Software Needed
* Kit Includes FlashCard & Software

2.6MB FlashCard	$339
5.2MB FlashCard	$419
10.4MB FlashCard	$649
20MB FlashCard	$1199

HEWLETT PACKARD

PRINTER ACCESSORIES:

Macintosh

1MBX8	80ns	2Chip	$Call
1MBX8	80ns	8Chip	$Call
1MBX8	70ns	2Chip	$Call
1MBX8	70ns	8Chip	$Call
2MBX8	80ns	2Chip	$Call
4MBX8	80ns	8Chip	$Call
4MBX8	70ns	8Chip	$Call
4MBX8	60ns	8Chip	$Call
4MBX8	80ns	II-FX	$Call
16MBX8	70ns	8Chip	$Call

32-BIT FOR QUADRA 800, CENTRIS, & LCIII

2MB Module	$Call
4MB Module	$Call
8MB Module	$Call
16MB Module	$Call

MAC MEMORY INSTALLATION

2-Hr Installation $15
(excluding Powerbooks)

POWERBOOK MEMORY

6MB Module (160/180)	$CALL
8MB Module (160/180)	$CALL
10MB Module (160/180)	$CALL
6MB Modules (140/145/170)	$CALL

72-PIN SIMMS

2MB 604-70ns	$CALL
4MB 1X36-70ns	$CALL
8MB 2X36-70ns	$CALL
16MB 4X36 70ns	$CALL

MATH CO-PROCESSORS

CHIPS AND TECHNOLOGIES Co-processor for 386-DX16, 20, 25, & 33MHz **$59**

intel.

80387SX-16, 20, 25	$79
80387DX-16, 20,25,33	$79

IIT INTEGRATED INFORMATION TECHNOLOGY

3C87-20, 25, 33	$79
3C87-40	$79

Cyrix.

83S87SX-33	$79
83D87-16, 20, 25, 33	$69
83D87-40	$69

WEITEK

4167-33 W/Manual & SW	$599

CACHE MEMORY

32X8-20	$5.99

MOTHERBOARDS

American Megatrends

THE MOST RELIABLE BOARDS IN THE INDUSTRY

Super Voyager VLB-II

- ▶ 2 VESA Local Bus Slots - 7 ISA Slots
- ▶ ZIF CPU Expansion
- ▶ On Board I/O
- ▶ Up to 64MB on Board RAM
- ▶ 256K Cache

486DX33 VESA 256K	$599
486DX50 VESA 256K	$799
486DX/2-66 VESA 256K	$859

Enterprise III

- ▶ 8 EISA Bus Slots - ZIF Expansion Sockets
- ▶ Buffered VESA Loca Bus
- ▶ 256MB DRAM Support
- ▶ 256K Cache

486DX33MHz	$869
486DX50MHz	$1049
486DX2/66MHz	$1089

Enterprise IV

- ▶ Seven EISA Bus Slots
- ▶ Two VESA Local Bus
- ▶ ZIF Expansion Sockets
- ▶ On Board I/O

486DX33MHz	$749
486DX50MHz	$929
486DX2/66MHz	$999

AMIDiag 4.0 OEM

Diagnostic Package to Manufacturing Field Engineers and Endusers **$49.99**
*Sold with AMI boards only

NICE™

486DX EISA/VESA/ISA	$269

ZIF SOCKET FOR UPGRADABILITY
0Mb RAM UP TO 128Mb ,256K Cacheup to 1Mb

MICRONICS

JX30 486DX/33 256K	$699
JX30 486DX2/66 256K	$899

Genoa

SYSTEMS CORPORATION

Turbo Express 486VLB	$169
256K Cache, ZIF Socket 8Slots	
PCI 486/256K Cache	$call

NCA's Elite UM486-V3

New 3 VESA Local Bus Slot MotherBoard
256K Cache
0MB upgradable to 64MB
ZIF 238 pin Socket (Pentuim overdrive ready)
UMC Chip Set/AMI BIOS
Ultra Reliability and Quality

486DX-33 w/CPU	$439
486DX/2-50 w/CPU	$539
486DX/2-66 w/CPU	$629
without CPU/256K	$189

NCA's PCI LineUp

WHY PCI?

Processor Independent.
Fewer incompatibility & reliability Problems.
Scalable throughput 32-bit/64-bit backward compatibility.
5V and 3.3V supported on an edge connector.
Auto Configuration features.
Bus mastering, concurrency & linear burst transfer

NCA's Premier/PCI'

PCI Pentium Motherboard

MADE IN IRELAND

- •Itegrated SMC37C665 Super I/O Chip
  Providing: Two FIFO Hi Speed Serial Ports/1 parl.
- •Three PCI Local Bus PCI-Providing a high Bandwidth Data Path
- •Five ISA Slots (Includes 1 Shared ISA/PCI Slots)
- •Intel Mercury PCI Chip Set
- •256K Direct Mapping, write back second level Cache
- •Intel Pentium 60MHz Processor
- •Integrated PCI IDE port
- •Heat Sink for CPU

$1399

without CPU	$499

NCA's PCI/i-486

PCI 486 Motherboard

- Three 32bit PCI Slots
- Four 16bit ISA Slots
- Intel PCI 486 Saturn Chipset
- 256K Cache (up to 512K)
- Integrated NCR 53C810 32 bit PCI SCSI Controller
- Memory Upto 128MB
- ZIF Socket for future upgrade
- Integrated Hi-Speed Serial Ports/1Parl.

$319 NO CPU

NCA's PCI add-on OPTIONS:

Hi-Quality 32Bit PCI local bus interface Cards.

PCI-SC200 SCSI Card	$109
NCR 53C810/ Drivers Dos, OS/2, Windows NT, Unix, Novell. Supports 7HDs, CD ROM, & Tape. 10MB/Sec (Sync)	
PCI-Diamond Viper	$449
P9000 Chip / 2MB Vram, 64 bit Architecture.	
PCI-Diamond Stealth	$259
Affordable High Performance Video Card	
PCi-ATI Ultra Pro 2MB	$399
ATI Mach 32AX Graphics Accelerator 2MB VRAM,	
PCI-Matrox MGA 2MB	$439
DynaView 2D & 3D. Refresh rate upto 80Hz	
PCI-Genoa Phantom	$249
2MB DRAM, High Performance and Quality	

alaris

Manufactured By IBM
3 Year Warranty

- ▶ VESA Local Bus
- ▶ 128K Cache
- ▶ Includes CPU & Co-Processors
- ▶ 16K Internal Cache

486SLC2-66, 26.2mips	$299

HIGH QUALITY, HIGH PERFORMANCE MOTHERBOARDS

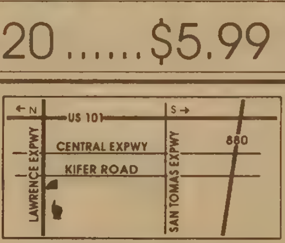
386SX-33MHz	$99
486SLC-33MHz with CPU	$119
386DX-40MHz w/CPU, 128K Cache	$119
386DX-40MHz w/CPU, 256K Cache	$139
486DLC/40 Cyrix	$179
486DLC/40 w/Co-Pro Cyrix	$199

NCA Computer Products

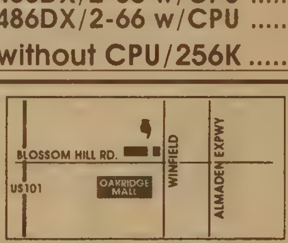
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

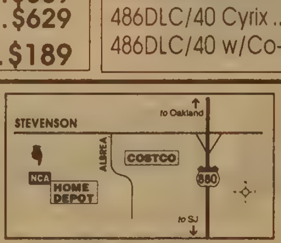
PRICE SUBJECT TO CHANGE WITHOUT NOTICE LIMITED STOCK ON SPECIAL ITEMS NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

ACCESSORIES

CASES

EXTERNAL SCSI DRIVE CASES

- ▶ High Quality Metal Cases
- ▶ 2 Centronics Output
- ▶ Noise-Free Fan
- ▶ External SCSI ID Switch
- ▶ External SCSI Cable (50C-50C or 50C-25C)
- ▶ Power Cable & Hardware

For 3.5" or 5.25" Half Height	**$99**
For Full Height or 2 HH (NCA)	**$199**
For 2 Full Height 200W with 5-fans	**$279**
For 4 Full Height With Panel	**$499**

POWER SUPPLIES

250Watt UL approved AT	$49
250Watt UL for Tower	$49
400Watt UL for Tower	$179

American Power Conversion

UNINTERUPTED POWER SUPPLY

DESCRIPTION		PRICE
250	250Va/175Wts	$199
400	400Va/250Wts.	$179
450	600Va/400Wts.	$199
600	900Va/630Wts.	$283
900	1250Va/900Wts	$373
1250	2000Va/1500Wts.	$499

TRIPP LITE "THE POWER PEOPLE"

WE CARRY A COMPLETE LINE OF POWER PRODUCTS

COMPUTER CASES

- ▶ HIGH QUALITY CASES
- ▶ UL APPROVED POWER SUPPLY
- ▶ GREAT STYLE SELECTION

NCA SERIESHIGH QUALITY

DESCRIPTION		PRICE
EC-270	Desktop 200W	$79
EC-477	Med Tower 200W	$99
EC-672	Full Tower 250W	$119
EC-383 IDU	Mini Tower 200W	$79
EC-487IDU	Med Tower 200W	$109
EC-682 IDU	Full Tower 250W	$139
CTC-26DU	MiniTower 230W	$59
CTC-27DU	MedTower 230W	$89
CTC-28DU	Full Tower 250W	$109
CTC-49DU	SuperTower 300W	$159

POINTING DEVICES

LOGITECH

MouseMan Serial	$52.99
MouseMan Bus Ver.	$57.99

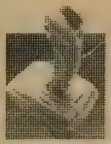
NAME	PRICE
FIRST-MOUSE	$36.99
TrackMan-II	$74.99
MOUSE-MAN Cordless	$73.99
KIDSMOUSE	$29.99
CYBERMAN	$73.99

NAME	PRICE
SoundMan 16	$99.99
ScanMan Color	$427
ScanMan 256 with OCR	$188.99
ScanMan 32	$99.99
PhotoMan Plus for MAC/PC	$Call

Microsoft

NAME	PRICE
Microsoft Mouse OEM	$43
Microsoft Mouse II OEM	$58

QuickShot by Bondwell



WARRIOR 5 PLUS	**$9.99**
RAIDER 5 JOYSTICK	**$15.99**
Sound Beat QS-820 Speakers	**$12.99**
WARRIOR 5 Deluxe Analog Joystick for PC	**$9.99**
Smart Game Card 2-Game ports Selectable Speed	**$16.99**
Star Fighter 5 Control Center	**$9.99**
Sound Mate II Amplified Speakers	**$19.99**

CABLES

HARD DRIVE EXTERNAL CABLES

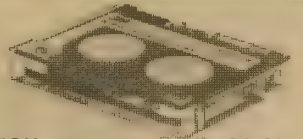
DESCRIPTION	PRICE
CENTRONICS TO SCSI-II	$39.99
CENTRONICS TO MAC 25-PIN	$7.99
CENTRONICS 50 TO CENTRONICS 50, 6FT	$12.99
CENTRONICS 50 TO CENTRONICS 50, 3FT	$9.99
CENTRONICS TO DB-50	$39.99
DB-50 TO SCSI-II	$39.99
DB-50 TO DB-50	$39.99
SCSI-II TO SCSI-II	$39.99
FAST WIDE SCSI-II TO CENTRONICS	$89.99

HARD DRIVE INTERNAL CABLES

DESCRIPTION	PRICE
SCSI 50-PIN RIBBON 3 CONNECTOR 2 devices	$5.99
SCSI 50-PIN RIBBON 4 CONNECTOR 3 devices	$9.99
SCSI 50-PIN RIBBON 5 CONNECTOR 4 devices	$12.99
SCSI 50-PIN RIBBON 8 CONNECTOR 7 devices	$22.99
IDE 40-PIN RIBBON 3 CONNECTORS	$3.99
FLOPPY & IDE CABLE SET	$5.99

MEDIA

TAPES & CARTRIDGES



DESCRIPTION	SINGLE	5-PACK
2120 (120/250MB)		
SONY QD2120 120/250MB	18.95	89.00
3M 2120F FORMATTED XMAT	18.00	89.00
MAXELL DC2120 UNFORMATTED	16.99	79.00
MAXELL DC2120 FORMATTED Q80	19.99	89.99
6000(1/4" TAPES)		
SONY QD6150 150MB	22.95	107.50
SONY QD6250 250MB	28.95	137.50
SONY QD6525 525MB	33.95	155.50
DAT 4mm 90meters		
SONY 90M	17.95	75.00
TDK DC4-90	13.99	65.00
DAT 8mm 112meters		
EXABYTE UP TO 5.0GB TAPES	18.00	89.00
TDK DC8-112	9.99	45.00
FLOPPY DISKS		
SONY 2.88M DISKS	10PACK ONLY $62.50	
BULK 1.44M 3.5" FORMATTED	.68¢	25PACK $15.99
BULK 1.2M 5.25" FORMATTED	.39¢	25PACK $9.99
REMOVABLE DISKS		
SYQUEST 44MB SQ400	$65.00	$309
SYQUEST 88MB SQ800	$99	$489
SYQUEST 105MB 3.5"	$69	$345
BERNOULLI	See pg. 13	
RICOH 128MB	$49	239
MAXELL 128MB OPTICAL	$42	199
MAXOPTIX 1.0GB GLASS OR POLY	$195	979
RICOH 650MB	$145	$699

KEYBOARDS

DESCRIPTION	PRICE
MITSUMI BLACK	$39.99
Spill Resistant 101	$19.99
MITSUMI High Quality Keyboard	$29.99
ALPS SWITCH Click Style	$39.99

FOCUS

DESCRIPTION	PRICE
FOCUS 2000 W/COVER	$42.99
FOCUS 8000 with Calculator	$59.99
FOCUS 9000 with Calculator / programmable	$69.99

MICROSPEED

DESCRIPTION	PRICE
DELUXE 101-KEY MEMBRANE includes PS/2 adp.	$44.99
DELUXE 101-KEY TACTILE includes PS/2 adp.	$58.99

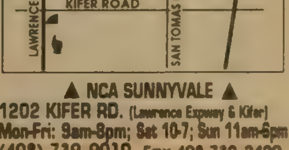
CPU COOLING FAN $9.99

NCA Computer Products

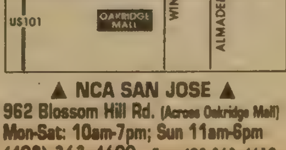
Your Computer Product SUPERMARKET

DISCOVER AMERICAN EXPRESS MasterCard VISA PURCHASE ORDERS

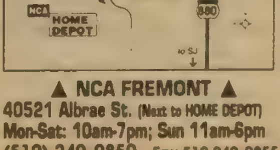
PRICE SUBJECT TO CHANGE WITHOUT NOTICE. LIMITED STOCK ON SPECIAL ITEMS. NOT RESPONSIBLE FOR TYPE ERRORS



▲ NCA SUNNYVALE ▲
1202 KIFER RD. (Lawrence Expway & Kifer)
Mon-Fri: 9am-8pm; Sat 10-7; Sun 11am-6pm
(408) 739-9010 Fax 408 739-2420



▲ NCA SAN JOSE ▲
962 Blossom Hill Rd. (Across Oakridge Mall)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(408) 363-4600 Fax 408 363-4610



▲ NCA FREMONT ▲
40521 Albrae St. (Next to HOME DEPOT)
Mon-Sat: 10am-7pm; Sun 11am-6pm
(510) 249-0850 Fax 510 249-0855

NCA CORPORATE
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

MAIL ORDER DEPT.
Call (408) 522-3050

©1994 INVERSE CORPORATION

RESOURCES

Calendar Of Events

CONFERENCES, SHOWS, AND OTHER SPECIAL EVENTS

MARCH

March 3–April 14 Next Exit Multimedia Performance. San Francisco. Life on the Water. Call: (415)864-3547.

March 4–April 15 Joe's Digital Diner Interactive Happy Hour And Multimedia Dinner. San Francisco. Life on the Water. Call: (415)864-3547.

March 5–6 Computer Show & Sale. Cow Palace, San Francisco. Richard James. Call: 1-800-685-1400.

March 6 Computer, Ham Radio, Electronics Swap Meet. Livermore. Livermore Amateur Radio Club. Call: (510)447-3857 or (510)783-8052.

March 7–9 Business Issues Surrounding Portable Systems For Computing And Communications Conference. San Jose. Technologic Partners. Call: (212)696-9330.

March 9–10 Portable Systems For Computing And Communications Trade Show. San Jose. Technologic Partners. Call: (212)696-9330.

March 10 Case Histories Of Companies Employing Mobile Technologies Seminar. San Jose. Technologic Partners. Call: (212)696-9330.

March 13 The Computer Show & Sale. Marin Civic Center, San Rafael. MarketPro. Call: (415)456-6730.

March 13–16 Software Publishers Association Spring Symposium '94. San Francisco. Software Publishers Association. Call: (202)452-1600.

March 14 Visual Explanations Presentation By Edward Tufte. San Jose. Computer Literacy Bookshop. Call: (408)435-1118.

March 14–18 Business Software Solutions Conference And Exhibition. San Jose. Business Software Solutions. Contact: Business Software Solutions Conference & Expo, 600 Harrison St., San Francisco, CA 94107-9602.

March 14–18 Business Software Solutions, Software Development Conference. San Jose. Smith and Smith. Call: (415)905-2784.

March 16–19 Technology And Persons With Disabilities Conference. Los Angeles. CSU, Northridge Center on Disabilities. Call: (818)885-4929.

March 19 The Computer Show & Sale. Solano County Fairgrounds, Vallejo. MarketPro. Call: (415)456-6730.

March 19–20 Computer Show & Sale. Oakland Coliseum, Oakland. Richard James. Call: 1-800-685-1400.

March 20 The Computer Show & Sale. Sonoma County Fairgrounds, Santa Rosa. MarketPro. Call: (415)456-6730.

March 21–25 UniForum '94. San Francisco. World Expo Corp. Call: 1-800-225-4698.

March 26 Computer Show & Sale. Santa Clara Fairgrounds, Santa

Continued

MARCH 7

NANOSYSTEMS STUDY GROUP

Genentech Conference Center, South San Francisco

This month's meeting will feature a public talk by Dr. K. Eric Drexler on "Molecular Machine Systems: Toward a New Basis for Physical Technology." This talk will focus on recent progress in understanding the design of molecular machines made from synthetically accessible polymers, including proteins. An engineering approach indicates that this is more practical than the biological models might suggest. The talk parallels Dr. Drexler's forthcoming article in the *Annual Review of Biophysics and Biomolecular Structures*. Meetings begin at 7:30 pm. For more information, contact: Ted Kaehler, (408)974-6241 or email: Kaehler2@AppleLink.Apple.com.

MARCH 14

VISUAL EXPLANATIONS: A FREE PRESENTATION BY EDWARD TUFTE

Computer Literacy Bookshop, San Jose

How do you clearly depict things that move? How do you illustrate cause and effect? Perhaps no one is more qualified to answer these and related questions than Edware Tufte. The Yale professor and graphic design critic has written, designed, and published two widely acclaimed books, *The Visual Display of Quantitative Information* and *Envisioning Information*. The presentation is at the Computer Literacy Bookshop at 6:30 pm. Call: (408)435-1118

MARCH 16

MATISSE'S GUIDED TOUR OF THE INTERNET

San Francisco

This tour is an opportunity to learn how your business can become part of the Internet. The presentation makes heavy use of a live connection to the Internet, including demonstrations of new and powerful graphic interfaces to Internet resources. Tour guide Matisse Enzer is a former customer support manager at The WELL, the Bay Area's best known Internet site. Admission is $60 in advance and $75 at the door. Call: (415)469-8271. Email: matisse@well.sf.ca.us.

THIS LIST IS NOT OUR LOWEST PRICES...

We Lower Prices Daily, You Get The Lowest Prices Everyday!

You Will Receive A Special Discount By Showing Us An Advertised Price, Which Is Lower Than Our Everyday Lower Price!*

PENTIUM P5/60, 256K CACHE

- Pentium P5 CPU
- VESA Local Bus/PCI/256K Cache Motherboard
- 4 MB RAM 70ns
- 1.44 or 1.2 MB Floppy Drives
- 340 MB Hard Drive
- SVGA Card
- 14" SVGA Monitor 1024x768
- IDE 2HD/2FD Controller
- 2 Serial, 1 Parallel, 1 Game Ports
- 101 Enhanced Keyboard
- Mini-Tower/Desktop Case
- High Resolution Mouse
- Internal Clock/Battery

Pentium P560	$2299
INTEL 486DX2/66 PCI	$1535

486DX2-66/DX-33/40 256K CACHE

- 486 CPU, AMI BIOS
- Vesa Local Bus 256K Cache Motherboard
- 4 MB RAM 70ns
- 1.44 or 1.2 MB Floppy Drive
- 170 MB Hard Disk
- SVGA Card
- 14" SVGA Monitor 1024x768
- IDE 2HD/2FD Controller
  - 2 Serial, 1 Parallel, 1 Game Ports
- 101 Enhanced Keyboard
- Mini Tower/Desktop Case
- High Resolution Mouse
- Internal Clock/Battery

INTEL 486DX2-66	$1199
AMD 486DX2-66	$1149
486DX-33/40	$1047

IBM 486SLC2-66 486DLC-40/386DX-40

- 486 DLC , IBM SLC2 CPU or 386DX CPU
- DLC/DX 128K/SLC 64K Cache
- 4 MB RAM 70ns
- 1.44 or 1.2 MB Floppy Drive
- 170 MB Hard Disk
- SVGA Card
- 14" SVGA Monitor 1024x768
- IDE 2HD/2FD Controller
- 2 Serial, 1 Parallel, 1 Game Ports
- 101 Enhanced Keyboard
- Mini Tower/Desktop Case
- High Resolution Mouse
- Internal Clock/Battery

IBM 486SLC2-66	$927
486DLC-40	$827
386DX-40	$777

POPULAR CD TITLES

• Animals! The San Diego Zoo	$17
• Arthur's Teacher Trouble	19
• Challenge Game Pack	17
• Comptons Interactive Encyclopedia	53
• Dr. Fun Pak	9
• Grolier's Multimedia Encyclopedia V.6	35
• Interactive Storytime V.1	14
• Macmillan Dictionary for Children	17
• Mayo Clinic Family Health Book	16
• Microsoft Bookshelf	29
• Multimedia Audobons Birds	14
• Multimedia Audobons Mammals	14
• Mixed-Up Mother Goose	14
• National Geographic Mammals	18
• National Parks	15
• Oceans Below	15
• Playing with Language-English	19
• Playing with Language-Spanish	19
• Return to Zork	17
• Stellar 7	15
• The Adventures of Willy Beamish	15
•Where in the World is Carmen San Diego	17
• The Best of Microprose Game	17
• CD PAK (Game Collection)	17

A LOT OF NEW TITLES AVAILABLE

From CD Titles to CAD, Multimedia or Low-Cost Student Systems, We Always Customize To Meet Your Needs!

MOTHERBOARD w/CPU

INTEL 486DX2/66, VLB 256K	$545
AMD 486DX2/66, VLB 256K	489
INTEL 486DX/33, VLB 256K	349
AMD 486DX/40, VLB 256K	349
486SX/33, VLB 256K Cache	219
486SLC2/66 ISA 0 Cache	219
486SLC2/66 VLB 64K Cache	249
486DLC/40 128K Cache	137
386DX/40 128K Cache	95
386SX/33	63
Motherboard W/O CPU	CALL

FLOPPY & HARD DRIVES

Teac 1.44MB	$35
Teac 1.2 MB	44
Teac Combo 1.2/1.44 MB	97
120 MB IDE	159
170 MB IDE	169
210 MB IDE	195
250 MB IDE	209
340 MB IDE	247
420 MB IDE	309
540 MB IDE	409
212 MB SCSI	227
340 MB SCSI	357
520 MB SCSI	537
Other Sizes	LOWEST

MONITORS

14" SVGA 1024 .39 Int	$184
14" SVGA 1024 .28 Int	213
14" SVGA 1024 .28 NI	229
CTX:	
14" SVGA 1024 .28 Int	$229
14" SVGA 1024 .28 NI	248
15" CMS1561 1024 NI	347
15" 1561LR 1024 NI	363
15" 1560 1024 NI	359
15" 1560LR 1024 NI	382
17" CPS1760 1280 NI	649
17" 1760LR 1280 NI	689
VIEWSONIC:	
4E 14" 1024 .28 Int	$252
6E 14" 1024 .28 NI	273
15 15" 1280 .28 NI	427
17 17" 1280 .28 NI	775
NEC, SONY	**LOWEST**

VIDEO CARDS

SVGA 512K	$35
SVGA 1 MB	49
Windows Accel 1 MB	54
Trident VL 1 MB	69
Cirrus Logic VL 1 MB	69
Spider VL 1 MB	94
Genoa VL 1 MB	89
Genoa Phantom 2MB	179
Diamond Stealth 1 MB	137
Diamond Viper 2 MB	349
Orchid Fahrenheit 1 MB	134

FAX/MODEM

96/24 S/R Fax/Modem	$37
144/144 Fax Modem (Int) Rockwell	107
144/144 Fax/Modem (Int) AT&T	109
144/144 Fax/Modem (Ext)	139
U.S. Robotics 14400 Fax/Modem	143

MULTIMEDIA

Mitsumi CD ROM Double Speed	$169
Panasonic CD ROM-652B Double Speed	174
Toshiba CD ROM Double Speed	329
NEC CD ROM 3xi	469
Sound Card	47
Sound Blaster Pro Deluxe	102
Sound Blaster 16	129
MediaVision Pro Audio Spectrum 16"	133
MediaVision Pro Audio Studio	179
Stereo Speakers 1.5W/14W/44W	8/25/59

PROCESSORS/MEMORY

486DX CPU	LOWEST
486DLC CPU	LOWEST
SIMM 1 MB	LOWEST
SIMM 4 MB	LOWEST
387DX/40	47
387DX/33	45
387SX/33	44
Cache RAM	LOWEST

CALL FOR ITEMS NOT LISTED

KEYBOARDS/MICE

Mitsumi 101 Enhanced	$15
Smart 101 Enhanced	17
Keytronics 101 Enhanced	25
Focus 2001	34
Focus 9000	53
MS Compatible Mouse	8
Logitech Mouse	29
Microsoft Mouse	32

CASES

Mini Tower w/200W PS	$39
Desktop w/200W PS	45
Mid Tower w/230W PS	59
Full Tower w/230W PS	79
Power Supply	29

MISCELLANEOUS

IDE w/2S/1P/1G	$13
IDE VL w/2S/1P/1G (2HD/2FD)	26
IDE VL w/2S/1P/1G (2HD/4FD)	35
16550 High Speed I/O	35
Tape Back-Up 250 MB	137
CPU Cooling Fan	8

NETWORK

16 Bit Ethernet Card	$43
Cable	LOWEST
Netware	LOWEST

UNITED

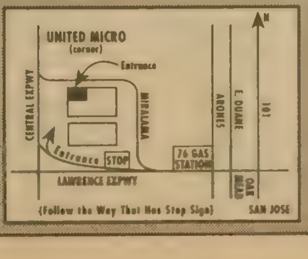
Your Technical Partner

UNITED MICROSYSTEMS, INC.

TEL: (408)737-8267 Fax: (408) 737-8268

1180 MIRALOMA WAY, #L, SUNNYVALE, CA 94086 MON-SAT: 9am-7pm SUN: BY APPOINTMENT

1 Year Parts & 2 Years Labor Warranty on Systems, Prices and Company Policy Subject To Change Without Notice.
Not Responsible for Typographic Errors. Lowest Price Offer Limited To The Cash Price and Stock Availability.
15% Restocking For Return *Identical Items Only



Calendar Of Events continued

Clara. Richard James. Call: 1-800-685-1400.

March 26–27 The Computer Show & Sale. Cal Expo, Sacramento. MarketPro. Call: (415)456-6730.

March 27 The Computer Show & Sale. Center Concord, Concord. MarketPro. Call: (415)456-6730.

March 30–April 1 International QuickTime And Multimedia Conference. San Francisco. Sumeria. Call: (415)904-0811.

APRIL

April 2 Computer Show & Sale. San Mateo Expo Center. Richard James. Call: 1-800-685-1400.

April 2 The Computer Show & Sale. Marin Civic Center, San Rafael. MarketPro. Call: (415)456-6730.

April 3 Computer, Ham Radio, Electronics Swap Meet. Livermore. Livermore Amateur Radio Club. Call: (510)447-3857 or (510)783-8052.

April 5 Silicon Valley Vs. Route 128: Regional Advantage Presentation By AnnaLee Saxenian. San Jose. Computer Literacy Bookshop. Call: (408)435-1118.

April 5–7 Computer Storage Exposition And Conference. San Francisco. Eberhard & Co. Call: (212)486-6168.

April 19–21 Networks Expo '94 San Francisco. San Francisco. Blenheim. Call: 1-800-829-3976.

April 23 The Computer Show & Sale. Sonoma County Fairgrounds, Santa Rosa. MarketPro. Call: (415)456-6730.

April 24 The Computer Show & Sale. Center Concord, Concord. MarketPro. Call: (415)456-6730.

April 30–May 1 The Computer Show & Sale. Solano County Fairgrounds, Vallejo. MarketPro. Call: (415)456-6730.

CLASSES, SEMINARS, AND WORKSHOPS

MARCH

March 3 Adobe Illustrator Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 3 FileMaker Pro For Windows Level 1 Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 3 FoxPro For Windows Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 3 Intro To Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 3 Microsoft Word II Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 3 Understanding Network Fundamentals Class. San Francisco. The Dublin Group. Call: (415)227-4800.

March 3–4 Intermediate 2-D AutoCAD Workshop. Santa Clara. The Copper Connection, Inc. Call: (408)970-9838.

March 3–May 5 Instructional Design For Multimedia Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 4 Beginning FileMaker Pro Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 4 Free Educational Seminar On Automating The Testing Of GUI Applications. San Jose. SQA, Inc. Call: 1-800-228-9922.

March 4 Lotus 1-2-3 For Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 5 Advanced Quark Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 5 Careers In Multimedia Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 5 Intro To Data Communications Networks Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 7 Beginning Illustrator Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 7 Lotus Notes System Development I Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 7 Multimedia Application Design Class. San Francisco. UC Berkeley Extension. Call: (510)642-4111.

March 7 Paradox 4.5 For Windows/DOS Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 7 Quattro Pro/Windows Level 1 Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 7–8 Microsoft Project For Windows Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 7–8 Your Mac Inside Out Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 7–10 Intro To AutoCAD Class. San Francisco. San Francisco State Extension. Call: (415)904-7710.

March 7–11 Intro To Microsoft Windows For New Users Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 7–11 The Complete Excel Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 7 & 15 Beginning Microsoft Word Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 8 Beginning DOS Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 8 Beginning QuarkXPress Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 8 Claris FileMaker Pro II Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 8 Intro To Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 8 Level 1 Fox Pro 2.5 For Windows/DOS Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 8 Level 2 Quattro Pro 5.0 For Windows Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 8–9 Advanced 2-D AutoCAD Workshop. Santa Clara. The Copper Connection, Inc. Call: (408)970-9838.

March 8 & 10 Beginning Illustrator Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 8–10 Intro To Project For Windows 3.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 8–15 Photoshop 3 & 4 Class. San Francisco. Center for Electronic Art. Call: (415)956-6500.

March 8–May 17 Programming The Macintosh Course. San Ramon. UC Berkeley Extension. Call: (510)642-4111.

March 9 Intro To WordPerfect For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 9 Lotus Notes System Development II Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 9–10 CorelDRAW Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 9 & 31 Intermediate Excel Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 9–April 13 3-D Modeling On the Mac Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 10 Adobe Illustrator II Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 10 Intro To Excel For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 10 Level 1 Word For Windows 6.0 Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 10 Mac Basics Level 1 Class. San Francisco. Media Alliance. Call: (415)771-7133.

Continued

PENTIUM PERFORMANCE FROM A NAME YOU CAN TRUST

LIFETIME LABOR & PERSONALIZED SERVICE

R-COMPUTER

PERFORMANCE · RELIABILITY · SATISFACTION · PERFECTION

QUALITY AND PERSONAL SERVICE FOREVER!

486-33
212MB HARD DRIVE SVGA SYSTEM

- 486-33MHz w/128K Cache CPU
- 4MB RAM
- 212MB Maxtor Hard Drives
- Viewsonic SVGA Monitor
- SVGA Card
- 1.2 & 1.44MB Floppy Drive

Complete system with
Deluxe Case and Keyboard

$1471 *Add $190 for 66MHz*

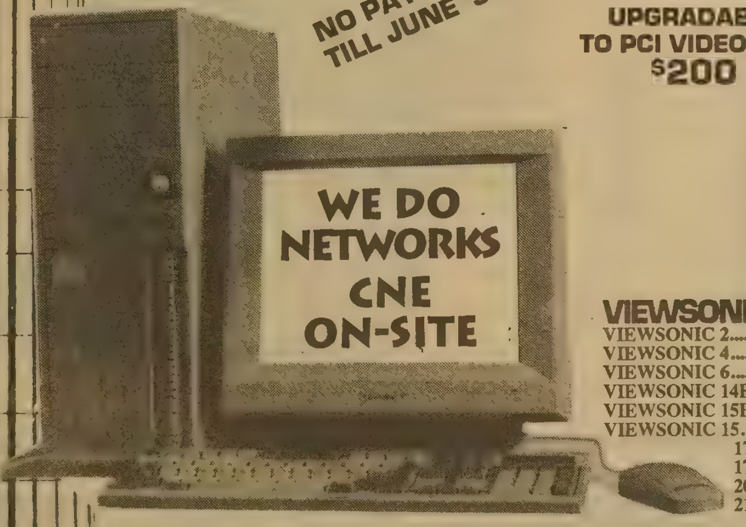
ULTRA-CADD 486-66 VLB
245MB HARD DRIVE SVGA SYSTEM

- 486-66MHz W/256K CACHE
- 8MB RAM
- 275MB QUANTUM HARD DRIVE NEW VIEWSONIC 17G SVGA ULTRA HIGH 1600 x 1024 RESOLUTION MONITOR WITH 76Hz REFRESH RATE
- ORCHID CELSIUS VLB VIDEO CARD W/1MB
- 1.2 & 1.44MB FLOPPY DRIVEs

COMPLETE SYSTEM WITH
DELUXE CASE AND KEYBOARD

$2630

NO PAYMENT TILL JUNE '94



PENTIUM PCI POWER

- P5-60MHZ INTEL PROCESSOR
- PCI LOCAL BUS W/256K CACHE
- 16MB RAM
- PCI LOCAL SDSI CONTROLLER
- DIAMOND VIPER PCI VIDEO ACCELERATOR
- QUANTUM 525MB SCSI HARD DRIVE
- VIEWSONIC 15" 76HZ SVGA .28DP MONITOR
- TEAC 1.2 & 1.44 FLOPPY DRIVES
- 16550 AFN HIGH SPEED I/O PORTS
- DELUXE CASE AND KEYBOARD

$3880

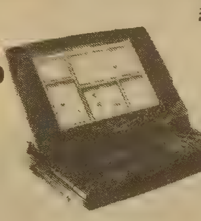
EDDIE'S NT MACHINE

486-66 EISA/VESA

- 486-66 EISA/VESA 256K CACHE
- 16MB HIGH SPEED MEMORY
- TEAC 1.2 & 1.44 FLOPPIES
- QUANTUM 525MB 10MS SCSI HARD DRIVE
- ADAPTEC 2742 DUAL BUS EISA ADAPTER
- TOSHIBA 3401 200MS/330KB SCSI CD-ROM
- SPIDER VESA WINDOWS 15" 72HZ SVGA .28DP MONITOR
- 16550 AFN HIGH SPEED I/O PORTS
- DELUXE CASE WITH 300 WATT POWER
- 101 PROGRAMMABLE KEYBOARD

$3584

UPGRADABLE
TO PCI VIDEO ADD
$200



VIEWSONIC MONITORS

VIEWSONIC 2	$250
VIEWSONIC 4	275
VIEWSONIC 6	295
VIEWSONIC 14E	355
VIEWSONIC 15E	395
VIEWSONIC 15	459
17G	865
17	985
20	1599
21	1845

486KKKKKK
170MB HARD DRIVE SVGA SYSTEM

- 486-25MHZ CPU
- 4MB RAM
- 170MB QUANTUM HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 OR 1.44MB FLOPPY DRIVE

COMPLETE SYSTEM WITH
DELUXE CASE AND KEYBOARD

$1232

COMPLETE 486 MULTI-MEDIA SYSTEM

- 486-33MHZ W/256K CACHE CPU
- 4MB RAM
- 212MB MAXTOR HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 & 1.44MB FLOPPY DRIVES
- MEDIA VISION
- PRO AUDIO SPECTRUM - 16 BIT
- TOSHIBA 3401 200MS/330KB SCSI CD- ROM
- WINDOWS 3.1

COMPLETE SYSTEM WITH
DELUXE CASE AND KEYBOARD

$1989

BCC AVANTI 486 SLC NOTEBOOKS

- 486SLC/25 MHz processor
- 130MB Hard Drive
- DOS
- High contrast 10" Display

$1599 **$2195** *COLOR MODEL*

VIDEO GRAPHICS

TRIDENT 9000	$39
TRIDENT 8900	59
DIAMOND SPEEDSTAR PRO VLB	119
ORCHID PRO IIS	140
DIAMOND STEALTH	159
FAHRENHEIT 1280	159
ORCHID CELSIUS	239
DIAMOND STEALTH PRO	239
DIAMOND VIPER	395

PERSONALIZED SERVICE
WITH CUSTOM
CONFIGURATION

LIFETIME LABOR WARRANTY PERSONALIZED SERVICE

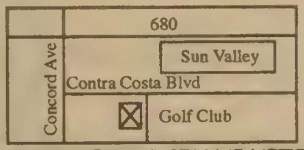
R-COMPUTER

SERVING YOU FOR OVER 8 YEARS

(510) 798-4884

30 Golf Club Road, Pleasant Hill, CA 94523

LANtastic Authorized Dealer



PRICES SUBJECT TO CHANGE W/O NOTICE

THE INTEL INSIDE LOGO IS A REGISTERED TRADEMARK OF INTEL CORPORATION

LANtastic by ARTISOFT

LAN TIMES READERS CHOICE 1992

LAN MAGAZINE

PC MAGAZINE EDITORS' CHOICE

THE COMPLETE PORTABLE SOLUTION

PC MAGAZINE'S TOP CHOICE - DEC 21 1992 - FOR MORE INFO: (408)263-9888

COLOR
486DX-33, 4MB,
120HDD, 14.4 Fax/modem
Winfax, COMM, Dos, Windows
$2,495

MONO
486DX-33,
4MB, 120HDD
$1,779

POWERFUL, FLEXIBLE, AND EXPANDABLE

WHAT ELSE CAN YOU ASK FROM A NOTEBOOK?

PC
MAGAZINE
TOP
CHOICE

> *"The unit's overall performance on our tests was very good. The ShowBOOK ranked in the top five in all tests... The ShowBOOK's standard local-bus video came through to secure the top Graphics WinMark score of 4.6 million pixels per second..."*
>
> *- PC Magazine, Dec 21, 93*

ShowBOOK IV: Mainframe Power w/ Expandability of VESA Desktop

- **ShowBOOK IV with Intel 80486-33DX up to Intel 80486-66DX2**
- **4MB, expandable to 20MB**
- **LOCAL BUS VIDEO**
- **128KB External Cache (Optional)**
- **Built-in 16mm Trackball**
- **Simultaneous Internal & External Display and Keyboard**
- **Type III PCMCIA Slots**
- 80/120/200/340MB HDD and 1.44MB 3.5" FDD
- Serial, Parallel, External CRT and Keymouse port
- Deluxe Carrying Case

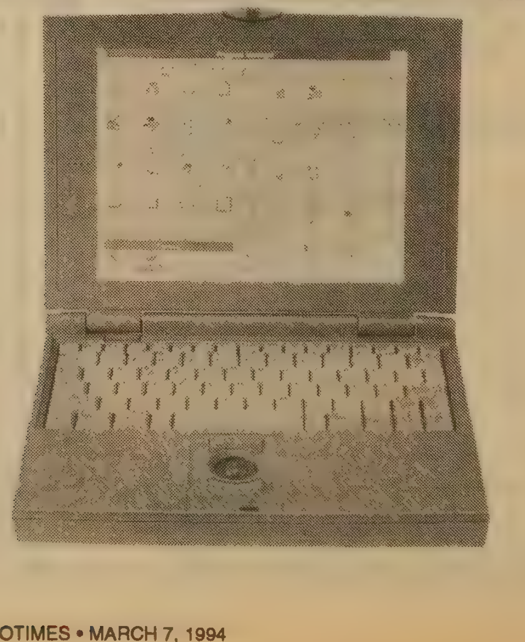
MULTIMEDIA DOCKING STATION SHIPPING NOW!!!!!

- **Two 32-bit VESA LOCAL BUS Slots and Four 16-bit ISA Slots**
- One 5.25" and One 3.5" Drive Bay
- **Built-in SCSI Controller**
- **Built-in Stereo Speakers**
- 2 Serial, 1 Parallel, 1 Keyboard, 1 Video port

ShowBOOK: THE NOTEBOOK THAT KEEPS GOING & GOING...

- **DUAL BATTERY Compartment**
- **4-6 Hours battery life per charge**
- **REPLACE BATTERY W/OUT TURNING OFF THE SYSTEM**
- **80486SLC-50MHz LOCAL BUS Notebook**
- **Best design Trackball with 2 buttons**
- **Graphical LCD System Indicator**
- 2MB expandable to 8MB
- 80/120/200MB HDD and 1.44MB 3.5" FDD
- Serial, Parallel, External CRT and K/B port
- **ONLY 3.7 Lbs, with 2 batteries only 5.5 Lbs**
- Suspend/Resume Key to prolong battery life
- Internal 9600/2400 Fax/Modem (Optional)
- Color Version also available
- Carrying Case

486-50MHz
2MB, 120HDD,
LOCAL BUS
$1,269



SubLITE: A friend that will go wherever you go...

- **ONLY 3.9 lbs.**
- **Intel 486SX-25MHz SL-Enhanced processor**
- **Nickel metal hydride provides 5 hours battery life**
- **REPLACE BATTERY W/OUT TURNING OFF THE SYSTEM**
- **Powerbook style Trackball**
- **PCMCIA Type II Slot**
- 4MB expandable to 12MB
- **Easily upgradable 120/210/340/520MB HDD**
- External 1.44MB 3.5" FDD
- Serial, Parallel, External CRT and K/B port
- **Advanced Power Management**
- Carrying Case
- **512K DRAM plus 64K VRAM for turbo bus accelerated video technology**

486-25MHz
4MB, 120HDD,
LOCAL BUS
$1,499

THE COMPLETE DESKTOP SOLUTION

COMPONENTS, CUSTOM CONFIGURED SYSTEMS, MULTIMEDIA UPGRADES

486-33 VESA System

- Energy-Saving VESA Local Bus
- Built-in Math Coprocessor
- 486-33Mhz CPU w/ Cooling fan
- 8Kb Internal burst cache
- 128K External cache
- 8x16-bit ISA slots
- 3x32-bit VESA Extension
- Advanced SIS Chipset
- 4MB on-board memory
- High quality 3 layers paint 1.44 mm steel case w/ Power Supply
- 101-key enhanced keyboard
- 1.2MB, 5.25" Floppy Drive
- 1.44MB, 3.5" Floppy Drive
- 245MB Hard Drive
- 32-bit VESA FDD/HDD controller
- 32-bit VESA SVGA Windows Accelerator card
- 14" Non-Interlaced Super VGA monitor with 0.28 dpi

$1075.00

486-66 PCI System

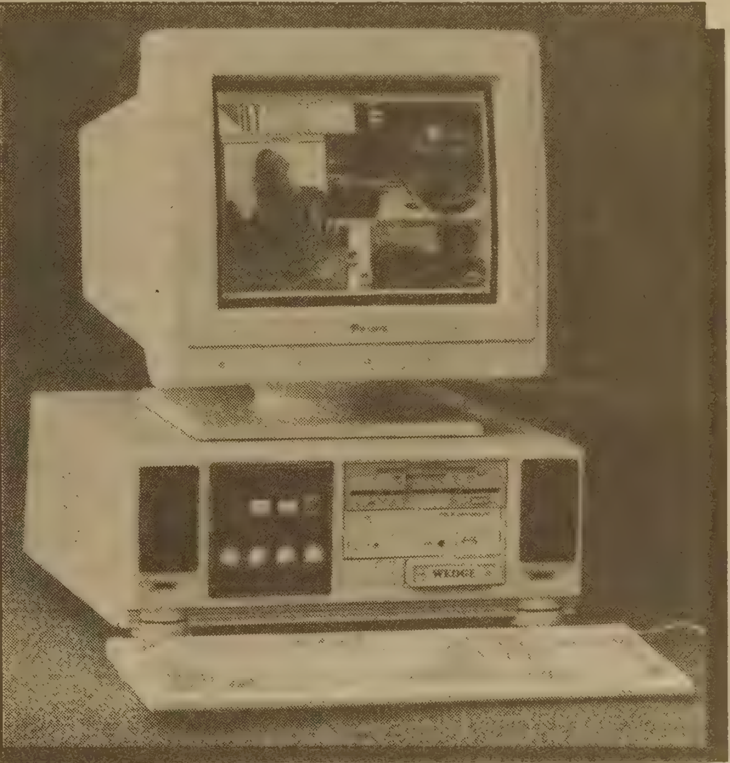
- Energy-Saving PCI Local Bus
- Built-in Math Coprocessor
- 486-66Mhz CPU w/ Cooling fan
- 8Kb Internal burst cache
- 256K External cache
- 4x32-bit PCI Local Bus Slots
- 5x16-bit ISA Slots
- Intel PCI 486 Saturn Chipset
- 8MB on-board memory up to 128MB using 72-pin SIMMs
- High quality 3 layers paint 1.44 mm steel case w/ Power Supply
- 101-key enhanced keyboard
- 32-bit PCI SCSI Controller
- 1.2MB, 5.25" Floppy Drive
- 1.44MB, 3.5" Floppy Drive
- 340MB SCSI Hard Drive
- 32-bit PCI SVGA Windows Accelerator card
- 14" Non-Interlaced Super VGA monitor 0.28 dpi

$2095.00

486-50 VESA Multi-Media

- Energy-Saving VESA local bus
- Built-in Math Coprocessor
- 486-50Mhz CPU w/ Cooling fan
- 8Kb Internal burst cache
- 256K External cache
- 3x32-bit VESA Slots
- 8MB on-board memory
- High quality multi-media case w/ Sound LED display
- Built-in Magnetically Shielded speakers
- 101-key enhanced keyboard
- 32-bit VESA HDD Controller
- 1.2MB, 5.25" Floppy Drive
- 1.44MB, 3.5" Floppy Drive
- 340MB Hard Drive
- 32-bit VESA VGA card Windows Accelerator
- 14" Non-Interlaced Super VGA monitor 0.28 dpi
- Sony double speed CD-ROM
- 16-bit Sound Card

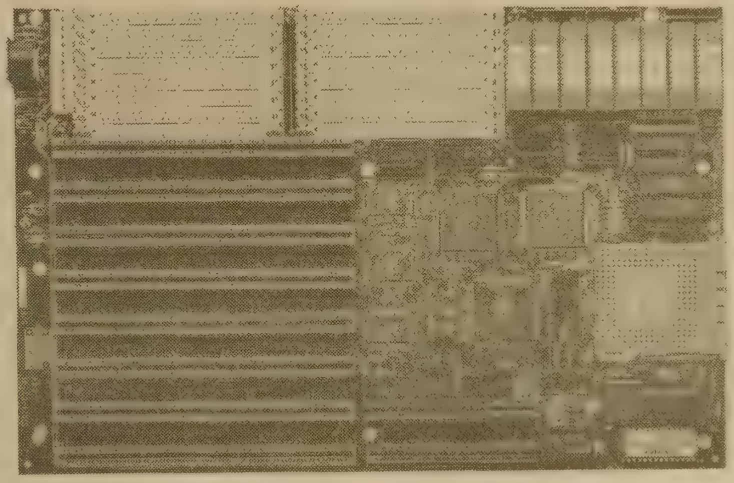
$1995.00



CALL for PENTIUM based SYSTEM SOLUTIONS

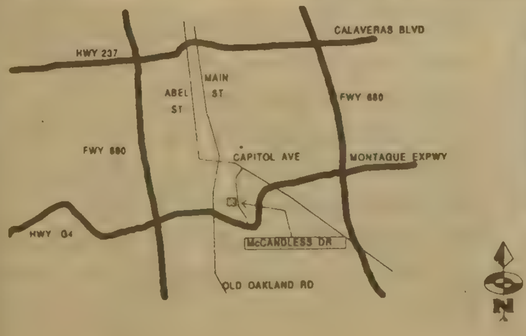
PCMCIA ADAPTERS

SCSI Adapter 500Kb/s w/ CorelSCSI	$255
SCSI "Bus Toaster" 10Mb/s w/ CorelSCSI	$299
Sound Card w/ Microsoft Sound System	$345
14.4/14.4 Fax/Modem w/ Winfax & COMit	$275
96/48/24 Fax/Modem w/ Quicklink II	$165
Ethernet ADapter (10Base-T/10Base-2)	$185
IBM Token-Ring 16/4 Adapter	$579
IBM 3270 Emulation Adapter	$499
PCMCIA 105MB Hard Drive	$Call
PCMCIA 170MB Hard Drive	$Call



WT586-66/60MHz VESA Local Bus
WT586-66/60MHz PCI Local Bus
WT486-66/50/40/33/25 EISA VESA Local Bus
WT486-66/50/40/33/25 VESA Local Bus
WT3486-66/50/40/33/25 VESA Local Bus
WT486-66/50/40/33/25 ISA
WT386-40/33 ISA

** Because of volatile nature of CPU and Memory, **
** please call for current LOW Prie **



**** All Systems shipped from WEDGE carries ****
**** Three years Labor and One year Part Warranty ****

WEDGE SINCE 1981
TECHNOLOGY, INC.
Your Partner for Success

1657 McCandless Drive, Milpitas, CA 95035
Sales: (408)263-9888, Tech: (408)263-0225, Fax: (408)263-9886

VISA

Calendar Of Events *continued*

March 10–11 Expert 2D AutoCAD Workshop. Santa Clara. The Copper Connection, Inc. Call: (408)970-9838.

March 10–11 Novell System Supervisor 3.11/3.13 Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 10–11 Photocentric Photoshop Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 10–17 Macintosh Basics Class. San Francisco. Center for Electronic Art. Call: (415)956-6500.

March 10 & 23 Microsoft Excel For Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 11 Intro To HyperCard Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 11 Intro To Paradox For DOS Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 11 Intro To Word For Windows 6.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 11 Level 1 WordPerfect 6.0 For Windows Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 11 Lotus 1-2-3 For DOS Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 11 Microsoft Access Part 1 Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 11 WordPerfect/Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 11–25 Director 3 Class. San Francisco. Center for Electronic Art. Call: (415)956-6500.

March 12 A Business Tour Of The Internet. San Francisco. IIT. Call: (415)621-1908.

March 12 Intro To Virtual Reality Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

Save Time And $$ At MarketPro Shows
The COMPUTER Products SUPERSTORE
Show & Sale At Your Door
Hours 10-5pm

Sun. Mar. 13 - SAN RAFAEL
Marin Civic Center
Sat. Mar. 19 - VALLEJO
Solano Co. Fairgrounds
Sun. Mar. 20 - SANTA ROSA
Sonoma Co. Fairgrounds

Mar. 26 & 27 - SACRAMENTO
Cal Expo 2 day Show
Sat. Apr. 2 - SAN RAFAEL
Marin Civic Center
Sat. Apr. 23 - Santa Rosa
Sonoma Co. Fairground

NEW Hardware • Software • Peripherals • Accessories • CD Roms
Admission $6 • FREE With Membership • For Other locations (415)456-6730
SAVE UP TO 90% ON ALL Your Computer Needs!

March 12 & 19 Photoshop Intensive Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 13 Intro To Lotus 1-2-3 v3.4 Class. San Francisco. The Dublin Group. Call: (415)227-4800.

March 13 Mac Basics Level II Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 13 The Miraculous Modem: Telecommunications On the Mac For Beginners Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 14 Basic Lotus Notes Concepts Class. San Francisco. Infotec Training Institute. Call: 1-800-282-7990.

March 14 Intermediate Quattro Pro 5.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 14 Intro To Networking Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 14 Intro To Word For Windows 2.0 Class. San Francisco. The Dublin Group. Call: (415)227-4800.

March 14 Level 2 WordPerfect 5.1/6.0 For DOS Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 14 Lotus Notes System Development I Class. San Francisco. Infotec Training Institute. Call: 1-800-282-7990.

March 14 Microsoft Word I Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 14–17 Intermediate AutoCAD Class. San Francisco. San Francisco State Extension. Call: (415)904-7710.

March 14 & 24 Intro To The Mac Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 15 Is AutoCAD For Windows For Me Class? San Francisco. San Francisco State Extension. Call: (415)904-7710.

March 15 Level 1 dBASE IV Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 15 Level 1 Lotus 1-2-3 For Windows 4.0 Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 15 Mac Maintenance And Troubleshooting Workshop. San Francisco. Media Alliance. Call: (415)771-7133.

March 15–29 QuarkXPress Class. San Francisco. Center for Electronic Art. Call: (415)956-6500.

March 16 Beginning Excel Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 16 Beginning Persuasion Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 16 Excel 5.0 Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 16 Harvard Graphics For Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 16 Intermediate Quattro Pro For Windows 5.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 16 Internet For Business Presentation. San Francisco. Internet Literacy. Call: (415)469-8271.

March 16 Intro To Fully Immersive Visual Reality Seminar. Redwood City. Division Inc. Call: (415)364-6067.

March 16 Lotus Notes System Development II Class. San Francisco. Infotec Training Institute. Call: 1-800-282-7990.

March 16–17 Programming Windows In Visual C++ And The Microsoft Foundation Class. San Francisco. UC Berkeley Extension. Call: (510)642-4111.

March 16–18 Intro To Programming Using Microsoft Visual Basic 3.0 Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 17 Beginning Freehand Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 17 Intro To Lotus 1-2-3 Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 17 QuarkXPress Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 18 FoxPro For Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 18 Intermediate Lotus 1-2-3 For Windows 4.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 18 Intermediate Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 18 Intermediate WordPerfect 6.0 Class. Santa Clara. The Dublin Group. Call: (415)227-4800.

March 18 Intro To WordPerfect For Windows 6.0 Class. San Francisco. The Dublin Group. Call: (415)227-4800.

March 18 Level 2 WordPerfect 6.0 For Windows Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 18 Windows Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

Continued on page 266

STOP COMPARING!!

We are here to get your business. You are here to look for the sweetest deal with latest technology, best service at the lowest price. It makes no sense not to satisfy you and waste all of our time and effort being here.

No need to look further, we guarantee nobody can beat us in any way, NO-BODY!

UMiracle
UMIRACLE MICROSYSTEMS

Practically everyone can - and

UMiracle P5 ISA PCI

- UMiracle P5 Pentium PCI 256K Cache Motherboard with 4 PCI's, onbrd NCR SCSI-2, Phoenix Flash BIOS
- 16MB 70ns 72Pin SIMM RAM (8MB x 2pcs)
- IDE I/O 2HD/2FD 2S/1P/1G
- 1.2M & 1.44M TEAC Floppy Drives
- 1.08GB Quantum Fast Wide SCSI-3 LPS1080S HD
- Toshiba XM-3401B SCSI-2 256K CD-ROM
- Diamond Viper PCI 2MB - 85 Million WinMarks
- KFC 17" 1280X1024NI 0.26DP Multisync Digital Monitor
- Premium Digital Full Tower 250W PS
- 101 Keytronic Keyboard

UMiracle

60Mhz $4415

66MHz $4665

Pushing Technology towards the edge! This ultimate PC brings out all the latest technology you, a power user, can desire. Pentium computing power combined with latest 132MB/sec throughput PCI bus architecture, Fast Wide SCSI-3 Harddrive, High Speed CD-ROM, and the ultimate 85M Winmarks VIPER PCI! No way you can find a PC this powerful, at this price. No way!

UMiracle 486 ISA PCI

- UMiracle 486 PCI 256K Cache Motherboard with 3 PCI's, 4 ISA slots, Intel Saturn ChipSet with onboard NCR PCI SCSI-2 Controller
- 16MB 70ns 72Pin SIMM RAM (8MB x 2pc)
- IDE I/O 2HD/2FD 2S/1P/1G
- 1.2M & 1.44M TEAC Floppy Drives
- 540MB Quantum Fast Wide SCSI-3 LPS540S HD
- Toshiba XM-3401B SCSI-2 256K CD-ROM
- Diamond Viper PCI 2MB - 85 Million WinMarks
- KFC 17" 1280x1024NI 0.26DP Multisync Digital Monitor
- Premium Digital Medium Tower 230W PS
- 101 Keytronic Keyboard

UMiracle

READY TO GO

33SX-$3250 50DX/2-$3425
33DX-$3360 66DX/2-$3515
40DX-$3380

Highly recommended by our engineering staff. Our fully integrated PCI motherboard combines PCI SCSI-2 NCR Controller, Phoenix Flash ROM BIOS, 72Pin SIMM upto 128MB. Our thorough testing ensures this PC is perfect and optimized in every aspect - including Fast-Wide SCSI-3 HD capable of 4MB/S substained DTR, Fastest Video, SCSI-2 CD-ROM! Ready for any graphic or scientific intensive work, now and future!

AIR 486 EISA VLB - EI-Line

- 486 AIR-EI EISA 3-Slot VLB 256K Cache Motherboard
- 8MB 70ns 72Pin SIMM RAM
- QAccess Fast Adaptec 6360 SCSI-2 VLB Controller with VLB IDE, FD and 2S/1P/1G
- 1.2M & 1.44M TEAC Floppy Drives
- 540MB Quantum Fast Wide SCSI-3 LPS540S HD
- Diamond Viper VLB 2MB VRAM Weitek 9000 ChipSet
- KFC 15" 1280x1024NI Multisync Digital Monitor
- Premium Digital Medium Tower 230W PS
- 101 Keytronic Keyboard

AIR Advanced Integration Research Inc.

33SX-$2331 50DX/2-$2506
33DX-$2441 66DX/2-$2596
40DX-$2461

READY TO GO

8 full EISA bus-mastering slots with 3 VLB extension, memory up to 256MB using 72Pin SIMM, U.S. made quality motherboard. Compare this to AMI or Micronics and you see no reason to spend five hundred dollars for just the name! We add QAccess all-in-one HD and I/O controller, SCSI-3 HD, 15" Flat Screen Digital Controlled Monitor and Viper VLB to make this machine fly even higher!

AIR 486 ISA VLB - MIS-Line

- 486 AIR-MIS ISA VLB 256K Cache Motherboard w/ Integrated Adaptec VLB-SCSI-2, VLB-IDE, I/O
- 8MB 70ns 72Pin SIMM RAM
- 1.2M & 1.44M TEAC Floppy Drives
- 340MB IDE Quantum LPS340A 128K Cache HD
- Orchid Fahrenheit 1280+ VLB S3-805 ChipSet
- KFC 15" 1280x1024NI Multisync Digital Monitor
- Premium Digital Medium Tower 230W PS
- 101 Keytronic Keyboard

AIR Advanced Integration Research Inc.

READY TO GO

33SX-$1725 50DX/2-$1900
33DX-$1835 66DX/2-$1990
40DX-$1855

New AIR VLB motherboard with built-in VLB-SCSI-2 featuring Adaptec 6360 Chipset for 100% software support guarantee, VLB IDE & Floppy interface, plus 2S/1P/1G - all built-in quality! We add new Quantum 340MB IDE super-fast harddrive, Orchid Fahrenheit VLB and 15" full screen digital controlled monitor. Another quality state of art from UMiracle!

AIR Green 486 ISA VLB - SH-Line

- 486 Green AIR-SH ISA 3 Slot VLB 256K Cache Motherboard
- 4MB 70ns SIMM RAM (1MB-30Pinx4)
- Fast VLB 32Bit IDE Controller 2HD/4FD with 2 Hi-Spd 16550 UART I/O & 2.88MB Support
- 1.2M TEAC & 2.88M Toshiba Floppy Drives
- 270MB IDE Quantum 128K Cache Harddrive
- Cirrus Logic 5428 VLB 1MB Windows Accelerator
- KFC 14" 1024X768 0.28DP Monitor
- Premium Digital Mini Tower 230W
- 101 Keytronic Keyboard

AIR Advanced Integration Research Inc.

READY TO GO

33SX-$1181 50DX/2-$1356
33DX-$1291 66DX/2-$1446
40DX-$1311

7 bus-mastering slots with 3 VLB extensions, ZIF socket for easy CPU insertion & removal and future P5 Overdrive support, U.S. made quality motherboard, 2.88M future floppy drive and hi-speed 16550 UART on COM1 & COM2 for smooth serial port transmission, Flash BIOS option. Green Power Managment slows down CPU and monitor when not in use. End up saving you a bundle! Smart choice? Only from UMiracle!

UMiracle 486 Green ISA VLB

- 486 Green ISA VLB 128K Cache Motherboard
- 4MB 70ns SIMM RAM (1MB-30Pinx4)
- Fast 32Bit VLB IDE Controller with 2S/1P/1G
- 1.44M TEAC Floppy Drive
- 270MB IDE Quantum LPS270A 128K Cache HD
- Cirrus Logic 5428 VLB 1MB Windows Accelerator
- KFC 14" 1024X768 0.28DP Monitor
- Premium Digital Mini Tower 230W PS
- 101 Key Enhanced Keyboard

UMiracle

33SX-$1011 50DX/2-$1185
33DX-$1121 66DX/2-$1276
40DX-$1141

READY TO GO

Don't just blindly look for the lowest price! It makes no sense to buy a VLB system without hard disk controller and video card on VLB. You aren't taking advantage of the VLB! Be careful, from time to time, you see ads selling cheap VLB without real controller and video card. Don't take the bait! Or you end up losing money to upgrade!

Wrong! You have only one choice, if you want it to be a smart choice! Building a PC is not merely putting parts together and booting to the C: prompt. To achieve cost effective, optimized performance, you need to know exactly how each component behaves and understand their characteristics and compatibility. At UMiracle, we keep searching and testing everyday. When you want the latest technology that works, at the best price, you have only one choice! Precise no-guessing price quotation, wide selection of the latest products, technical expertise, thorough hardware testing, on-time delivery. You can compare, but you will ultimately come to us. Guaranteed!

☑ Free Local Area Delivery for System Purchase
☑ 1 Year Parts** and Life Time Labor Warranty
☑ No-on-hold Expertise LifeTime Technical Support
☑ While-You-Wait Immediate Replacement/Repair Service
☑ 30 Day Money Back Compatiblity Guarantee on Systems

* Systems marked with "READY-TO-GO" are ready to be picked up or delivered within 30 minutes - Please allow more time for minor configuration changes.

** Most components come with over 1 year manufacturer warranty - First year will be covered by UMiracle. Warranty after the first year will be covered by manufacturers.

*** All complete systems are assembled, jumpers and switches setup/configured, DOS and Windows V3.1 tested, high resolution video monitor mode tested and continously burned in for 48 hours on all components and finally interactively inspected for trouble-free operation.

does - sell computers and you have lots of choices, right?

Add and subtract to make your dream machine!

Components/Upgrades

Add and subtract to make your dream machine!

Motherboard without CPU: (Call for CPU Prices)

386-40DX with CPU 128K	$140
386/486 ISA 128K - 386/486 CPU support	$100
486 UMiracle Green ISA VLB 128K - 3 VLB P5 OD support, able to turn off HD, Monitor horizontal Sync, CPU Slow Down	$100
486 AIR-SH Green ISA VLB 256K - 3 VLB slots Upto 32MB, ZIF, P5 OD support, bus-master	$120
Optional Flash BIOS for AIR-SH	$35
486 AIR-UL ISA VLB 256K - 3 VLB slots, upto 50MHz Upto 64MB, ZIF, P5 OD support, bus-master	$160
Memory Expansion Card 32MB for AIR-UL	$90
486 AIR-MIS ISA VLB - Bus-master, w/ VLB IDE, FD, 2S/1P & VLB SCSI-2 w/ Adaptec 6360 chpset, Upto 64MB by 72Pin SIMM, ZIF, P5 OD support 256K	$305
Optional Flash BIOS for AIR-MIS	$35
486 AIR-EI Full EISA VLB - 3 VLB Slots, upto 50MHz, Upto 256MB by 72Pin SIMM, ZIF, P5 OD support, 8 EISA slots w/ 3 VLB extension(256/512K)	$340/420
486 Micronics ISA VLB JX-30 256K, VLB IDE, I/O	$450
486 ISA PCI 256K - 3 PCI, 5 ISA Slots, ZIF, P5 OD Support, Intel Saturn ChipSet, Upto 128MB by 72Pin SIMM, Bus-master, Dallas onboard Battery, Phoenix BIOS, onboard PCI NCR SCSI-2 Controller, Complete software driver for OS/2, NT, UNIX	$340
Pentium P5 PCI 256K - 4 PCI, 4 ISA Slots, ZIF, Onbrd NCR SCSI-2 Controller, Intel Mercury ChipSet, Upto 128MB by 72Pin SIMM, Bus-master, Dallas Battery, Phoenix BIOS, Complete driver for OS/2, NT, UNIX	$450

CPU & Memory:(Please Call, Subject to Change Daily!)

Pentium P5-60MHz/66MHz CPU	$Call
Intel 486-33SX/33DX/50DX2/50DX/66DX2	$Call
AMD 486-40DX/50DX2/66DX2	$Call
Cyrix 486-33DX/40DX	$Call
8Kx8/32Kx8/128Kx8 Cache Memory	$2/$5/$32
1MB DRAM (44256-70ns DRAMx8pcs)	$40
1MB VRAM (44256-70ns VRAMx8pcs)	$60
1MB RAM (256K-70ns SIMMx4pcs)	$48
4MB RAM (1M-70ns SIMMx4pcs)	$Call
16MB RAM (4M-70ns SIMMx4pcs)	$Call
72Pin 70ns SIMM (4/8/16/32MB)	$170/330/650/1350

I/O Card/Controller Card/Network Card:

Single/Dual Printer Card	$10/15
AT I/O 2S/1P/1G	$12
AT I/O 2S/1P/1G w/ 2 HiSpd UART 16550's	$39
4 Serial Port Card with Cable	$65
16Bit IDE 2FD/2HD Controller	$12
16Bit IDE 2FD/2HD with 2S/1P/1G	$14
16Bit IDE 4FD/2HD 2.88MB support	$29
16Bit IDE 4FD/2HD 2S/1P 2.88MB support	$49
IDE Caching Controller Upto 64MB, 2HD/4FD	$65
VLB IDE I/O Controller with 2HD/2FD 2S/1P/1G	$25
VLB IDE 2HD/4FD with I/O Support 2.88MB, with 2 HiSpd UART 16550's, 1 Parallel, 1 Game.	$69
Promise DC-4030VL-2 VLB IDE w/ 0MB Cache	$130
UltraStor 34F SCSI-2 VLB Bus-Mastering	$265
BusLogic BT445S VLB SCSI-2, Bus-Mastering w/ Floppy Ctrl & Driver Kit	$265
Adaptec 1522A SCSI FD Controller (Bare)	$80
Adaptec 1522 SCSI FD Controller w/ Kit	$135
Adaptec 1542 Bus-master SCSI FD (Bare)	$185
Adaptec 1542CF Bus-master SCSI FD w/ Kit	$240
Adaptec 2742T EISA RISC-based SCSI-2 Controller w/ Dual Channel supporting 14 HDs, 2.88M	$365
Adaptec 2842VL VLB-to-Fast SCSI-2 Controller w/ 2.88MB Support & Driver Kit	$295
AIR QAccess Fast SCSI-2 VLB Controller w/ Adaptec 6360 Chipset and EZ-SCSI Software w/ VLB IDE/FD and 2S/1P/1G	$135
External SCSI-2 Adapter for QAccess/MIS/Any Onbd internal SCSI	$30
Ethernet NE2000 Adapter Coaxial/10-Base T	$48

Video Card:

16Bit 512K/1MB Trident SVGA 1024x768	$45/67
16Bit 1MB Tseng-4000 72Hz 32K Color	$75
Tseng-ET4000 VLB 1MB 16.7M Color	$100
Tseng-ET4000-W32 VLB 16.7M Color 1MB/2MB.	$125/185
Cirrus Logic 5428 VLB 1MB/2MB	$95/135
SPiDER Cirrus Logic 5426 VLB 1MB/2MB	$95/135
SPiDER Cirrus Logic 5428 VLB Plus 1MB/2MB	$120/160
SPiDER Black Widow VLB 1MB/2MB	$195/255
Orchid Fahrenheit 1280 PLUS VLB 1MB/2MB	$165/205
Orchid Fahrenheit VA VLB 1MB/2MB	$175/215
Orchid Celsius VLB 1MB/2MB	$205/265
Diamond Speedstar Pro VLB 1MB	$110
Diamond Stealth 24 VLB 1MB DRAM S3-805	$155
Diamond Stealth Pro VLB 1/2MB VRAM S3-928.	$255/315
Diamond Viper VLB 2MB VRAM 44M Winmarks	$365
Diamond Viper PCI 2MB VRAM 85M Winmarks	$420
ATI Ultra Pro VLB 2MB VRAM	$365
ATI Ultra Pro PCI 2MB VRAM	$410

Monitor:

Impression 14" 1024x768x0.39DP	$205
KFC 14" 1024x768x0.28DP	$235
KFC 14" 1024x768NIx0.28DP	$265
KFC 14" Multisync, 1024x768NIx0.28DP Digital-Control,Non-Glared	$345
KFC 15" Multisync,1280x1024NIx0.28DP Digital-Control,Non-Glared,Flat-Screen	$410
KFC 17" Multisync,1280x1024NIx0.26DP Digital-Control,Non-Glared,Flat-Screen Green Pwr Saving, Screen Shape Contrl	$770
MAG 15F Low-Rad 15" 0.28DP, 1280x1024NI	$475
MAG 17FG Low-Rad 17" 0.26DP, 1280x1024NI	$885
Viewsonic 6E 14" 0.28DP 1024x768NI	$300
Viewsonic 15 15" 0.28DP 1280x1024NI Digi.Cntl	$465
Viewsonic 17 17" 0.28DP 1280x1024NI Digi.Cntl	$940
Viewsonic 17G 17" Green W/On-Screen Contrl	$875
Viewsonic 20 20" 0.28DP 1600x1280NI Digi.Cntl	$1635
Viewsonic 21 21" 0.26DP 1600x1280NI Digi.Cntl	$1830
Nanao F340iW 15" 0.28DP 1024x768NI	$600
Nanao F550iW 17" 0.28DP 1280x1024NI	$1100
Nanao F560iW 17" 0.26DP 1280x1024NI	$1380
NEC 3FGe 15" 0.28DP 1024x768NI	$580
NEC 4FGe 15" 0.28DP 1024x768NI 76Hz	$685
NEC 5FGe 17" 0.28DP 1024x768NI	$1080
NEC 5FGP 17" 0.28DP 1280x1024 OptiClear	$1350
NEC 6FGP 21" 0.28DP 1280x1024NI OptiClear	$2380
Sony 1430 14" 1024x768 0.25DP	$570
Sony 1730 17" 1024x768 0.25DP	$990
Sony 17SE1 17" 1600x1200 0.25DP	$1230

Modem:

Zoltrix Sendfax 96/24 Int. 9600 Fax/2400 Data	$27
Zoltrix Standard Int. 96/24 9600 S/R Fax/2400 Data + Bitfax for Windows + MNP5 Software	$48
Zoltrix 14.4K S/R Fax/Data V.32Bis, V.32, V.42Bis, V.42, MNP5 +Bitcom + Bitfax Internal/External	$125/150
US Robotics Sportster 14.4K Data/Fax V32.bis, V.32, V.42 Internal/External	$150/175
Intel Fax Modem 14.4K Internal/External	$150/175

Floppy Drive/Tape Backup:

Teac 1.2M 5.25"/1.44M 3.5"/2.88M 3.5"	$46/38/90
Teac Dual 1.44M & 1.2M	$115
Toshiba 2.88M 3.5"	$58
Conner 250MB TapeBackup Int. w/ DC2120	$155
Colorado 250MB TapeBackup Internal	$155
3M Tape Cartridge DC2120 for 250MB QIC-80	$16

Keyboard/Mice/Software/Chassis/PS/Misc:

101 Enhanced Keyboard	$20
KeyTronic 101 Enhanced U.S. Made	$30
Focus 2001 101 Enhanced Click w/Cover	$36
Focus 8000 111 with Calculator	$40
Focus 9000 129 Programmable w/Calculator	$60
NorthGate OmniKey 101/102	$75
MS Compatible 3-Button Mouse	$10
Logitech Serial First Mouse/Mouseman	$30/45
Logitech Ergonomic Bus Mouseman	$65
Logitech Trackman	$75
Logitech Mouseman Cordless	$85
MicroSoft Ergonomic Serial Mouse V2.0	$50
MS DOS 6.2/Windows V3.1 (Registerable)	$40/50
Standard Mini Tower with 200W PS	$55
Premium PS w/230W Mini/Desktop/Med	$70/75/95
Premium PS w/250W Full Size Tower	$115
Power Supply PS-II Type 230W UL / 300W UL	$42/85
486/P5 Pentium CPU Cooling Fan	$10/20
Chassis Second Cooling Fan 3" or 3.5"	$20
Printer Cable 6'/10'/15'	$5/7/9
Motherboard External Battery	$5
Motherboard Crystal for 25/33/40/50/66MHz	$5

CD-ROM Drive:

Toshiba XM-3401B SCSI 256K Cache,200ms 330KB/Sec, Multi-Spin/Spd Internal	$350
NEC CDR-84JD-1 SCSI 280ms 300KB/S Internal	$240
NEC Triple Spd MultiSpin 3Xi Internal	$500
NEC Triple Spd MultiSpin 3Xi Int. OEM (No Disply).	$429
Texel 3028 SCSI 240ms Multi-Spin.Spd Internal	$285
Mitsumi DblSpeed 250ms 300kb/s w/controller	$210
Panasonic CR-562 320ms - need no caddy	$189
AT Interface CD-ROM Controller Card	$25
TopTek 80W Amplified Stereo Speaker	$75
Hi-Fi Amplifier Stereo Speaker	$45
LabTec CS-550 Amplified Stereo Speaker	$35
Shielded Stereo Speaker	$10
CD-ROM Caddy	$6
Any Audio Cable - CD-ROM to Sound Card	$7

Sound Card:

ProAudio Spectrum 16 w/ SCSI Interface	$139
ProAudio Studio 16 w/ SCSI Interface	$169
Sound Blaster Deluxe 8 Bit	$68
Sound Blaster Pro Deluxe 8 Bit	$102
Sound Blaster 16 Basic	$129
Sound Blaster 16 SCSI /with ASP	$185/205
Sound Blaster 16 MultiCD /with ASP	$169/199
Diamond Sonic Sound 16 Bit	$219

MultiMedia Package:

Creative Labs Discovery CD 8 Upgrade Kit	$355
Creative Labs Discovery CD 16 Upgrade Kit	$425
Creative Labs Edutainment CD 16 Upgrade Kit	$465

HardDisk

Western Digital

213MB IDE WDAC1210	$200
250MB IDE WDAC2250	$210
340MB IDE WDAC2340	$265
420MB IDE WDAC2420	$330
540MB IDE WDAC2540	$455

Maxtor

245MB IDE 7245AT 64K 15MS	$220
345MB IDE 7345AT 64K 14MS	$269
540MB IDE MXT540A 256K 8MS	$439
345MB SCSI 7345S 64K 14MS	$337
540MB SCSI MXT540S 256K 8MS	$569

Quantum

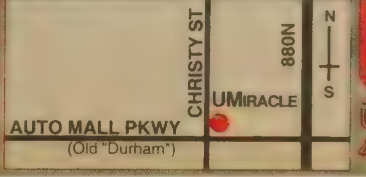
270MB IDE LPS270A 128K	$220
340MB IDE LPS340A 128K	$259
540MB IDE LPS540A 128K	$439
540MB Fast Wide SCSI-3 Empire LPS540S 512K	$495
1.08GB Fast Wide SCSI-3 Empire LPS1080S 512K	$905
700MB SCSI-2 Pro P700S 512K 10ms	$735
1.0GB SCSI-2 Pro P1050S 512K 10ms	$865
1.2GB SCSI-2 Pro P1225S 512K 10ms	$935
1.8GB SCSI-2 Pro P1800S 512K 10ms	$1145

PC Upgrades and Service Welcome
Our Technical Staff can Troubleshoot
and Pinpoint your Problem Fast!

Phone: 510-226-6746
Fax: 510-226-6758
Mon to Sat 9:00AM-6:00PM PST

ATM
COD

Off 880 Auto Mall
Parkway (it off 880
Durham), go west
and pass the 880
overpass, right on
second light, we
are inside Lincoln
Executive Centre,
the first business
park on your right.



UMiracle

UMIRACLE MICROSYSTEMS
43038 Christy Street Fremont CA 94538

OVER THREE HUNDRED NEW CD-TITLES!

Multimedia CD Titles

No.	Description	Price
002	WING COMMANDER & ULTIMA VI	$18
003	SO MUCH SHAREWARE II	$22
004	MS BOOKSHELF	$36
005	SLEEPING BEAUTY	$17
006	COMPTON'S ENCYCLOPEDIA (MPC)	$47
008	DICTIONARY OF LIVING WORLD	$22
009	ARTHUR'S TEACHER TROUBLE	$22
010	BARNEY BEAR GOES TO SPACE	$17
011	BEAUTY & BEAST	$17
012	MACMILLAN DICTIONARY CHIDREN	$24
013	MIXED UP MOTHER GOOSE	$15
014	CARMEN SAN DIEGO - DELUXE	$22
015	JONES IN THE FAST LANE	$14
016	PLAYING W/ LANGUAGES - ENGLISH	$22
018	MARIO'S MISSING/ WORLD ATLAS	$23
019	MAYO CLINIC FAMILY HEALTH BK	$23
020	NATIONAL GEOGRAPHIC MAMMALS	$22
021	REFERENCE LIBRARY BY STW	$21
022	CHESSMASTER 3000 MPC	$16
023	KINGS QUEST V	$14
024	SPACE QUEST IV	$16
025	STELLAR SEVEN	$17
026	ALL BEAUTIES****	$23
028	GIRLS OF VIVID VOL. 1.0****	$39
029	GIRLS OF VIVID VOL. 2.0****	$39
031	ABOUT COWS	$26
032	ADVENTURE OF WILLY BEAMISH	$17
033	AIRCRAFT ENCYCLOPEDIA	$29
034	AMER BUSINESS PHONEBOOK 1992	$17
035	AMERICAN VISTA	$29
036	ANIMALS ENCYCLOPEDIA MPC	$29
037	ARCADE BATTLES	$19
038	ARIS JETS & PROPS 2 DISKS	$22
039	ARIS WILD PLACES	$13
040	ARIS WIZARD TEST AND TUNE UP	$18
041	ARIS WORLD VIEW	$13
042	AUDUBON BIRDS	$19
043	AUDUBON MAMMALS	$18
044	BARNEY BEAR GOES TO SCHOOL	$17
045	BARRON'S COLLEGE GUIDE	$22
047	BEETHOVEN BY MICROSOFT - DISTI	$57
048	BRAIN DRAIN	$17
049	BUS. & ECON. WORLD ATLAS	$23
050	BUSINESS BACKGROUND	$39
051	BUSINESS MASTER	$21
052	CALIFORNIA COLLECTION	$17
053	CAREER OPPORTUNITIES	$29
054	CHESS MANIA	$41
055	CICA WINDOWS	$16
056	CINEMANIA BY MICROSOFT - DISTI	$57
057	CLIP ART HEAVEN	$25
058	CLIPART GOLIATH	$19
059	COLOSSAL COOKBOOK	$18
060	COMPLETE BOOK SHOP	$18
061	COMPOSER QUEST	$22
062	CONSUMER INFORMATION	$29
063	COREL ARTSHOW 3	$61
065	CROSSWORD CRACKER	$23
066	DESERT STORM	$22
067	DINOSAUR ADVENTURE	$22
068	EDUCATION MASTER	$22
069	ELECTRONIC LIB OF ART VI	$26
070	ENCARTA BY MICROSOFT - DISTI	$265
071	COREL DRAW V4.0	$259
072	EUROPEAN RACER BY REVELL	$55
073	FAMILY CHOICE	$19
075	FAMILY DOCTOR MPC	$19
076	FAMILY EDUCATION COLLECTION .	$22
077	FONT MASTER I	$19
078	FONT MASTER II	$22
079	FUTURA GAMES	$18
080	GAME MASTER	$19
081	GAME PAK I	$23
082	GAME PAK II	$33
083	GIFS GALORE	$16
084	GREAT CITIES VOL. 1.0 & VOL.2.0	$23
086	GUINESS DISC MPC 1993	$23
088	INDIANA JONES FATE ATLANTIS	$48
089	KGB WORLD FACT BOOK	$32
090	KILLER TRACK CD-MUSIC LIB	$17
091	KODAK PHOTO ACCESS	$18
092	LET'S PLAY	$18
093	LIBRARY OF THE FUTURE 1ST	$41
094	LOOM	$18
095	LOVELY LADIES****	$33
096	MAGAZINE RACK	$26
097	MANHOLE	$34
098	MANTIS EXPERIMENTAL FIGHTER	$17
099	MAVIS BEACON TYPING 2.0 MPC	$21
101	MIRROR MIRROR	$19
102	MONKEY ISLAND - ENGLISH	$17
103	MUSICAL INSTRUMENTS	$62
104	NATIONAL PARKS	$23
106	NORTH AMERICAN FAX BOOK	$31
107	OCEAN DIGITAL IMAGERY VOL. 1.0	$29
108	OLDIES BUT GOODIES	$18
109	OS/2 ARCHIVES	$17
110	OUR SOLAR SYSTEM	$15
111	PACIFIC ISLAND	$38
112	PC MEDIC	$27
114	PC SIG 12 SHAREWARE	$21
115	PETER AND THE WOLF	$17
116	PHOENIX 3.0 SHAREWARE	$18
117	PLAYING W/ LANG/FRENCH	$22
118	PLAYING W/ LANG/GERMAN	$22
119	PLAYING W/ LANG /JAPANESE	$22
120	PLAYING W/ LANG/SPANISH	$22
121	PRO PHONE 1993	$114
122	PROGRAMMER'S ROM	$28
123	PUBLISH IT! 2.0	$15
124	ROGER EBERT'S MOVIES COMPANN	$31
125	SAN DIEGO ZOO/ANIMALS	$19
126	SECRET WEAPON OF LUFTWAFFE	$21
127	THE SEVENTH GUEST - VIRGIN	$42
128	SFX-300 SOUND EFFECTS	$15
129	SHAKESPEARE	$15
131	SHAREWARE GOLD VOL. 2.0	$43
138	SIMTEL MSDOS SHAREWARE	$17
139	SO MUCH SCREENWARE	$28
140	SPACE ADVENTURE	$21
141	SPACE SERIES APOLLO	$30
142	SPEEDWAY	$61
143	STORYTIME	$21
145	SWIMWEAR 1993****	$29
146	TEMPRA KODAK ACCESS S/W	$18
147	TERRORIST GROUP PROFILES	$43
149	TIME TABLE OF HISTORY - SCIENCE	$19
154	U.S. HISTORY	$17
155	U.S. WORLD ATLAS PACK	$20
156	U.S.A. STATE FACT BOOK	$31
157	VARIETY STORE	$18
158	VGA SPECTRUM SOUND LIBRARY	$16
159	WIZ-PAK SHAREWARE	$15
161	WORLD ATLAS MPC	$16
162	WORLD OF FLIGHT	$29
163	WORLD OF TRAINS	$29
164	WORLD VISTA	$28
167	BEST OF VIVID****	$45
168	HOT PIX ECSTASY****	$35
172	HOUSE OF SLEEPING BEAUTY****	$47
178	SOUTHERN BEAUTIES****	$48
179	WOMEN OF VENUS****	$30
180	101 SEX POSITION VOL.1****	$48
181	101 SEX POSITION VOL.2****	$48
184	BUSTY OF BABES****	$30
188	AFTER DARK TRILOGY****	$52
189	LEGEND OF KAMASUTA****	$48
191	DIGITAL DREAMS****	$40
192	BUSTING OUT BY VIVID****	$50
193	LOTUS 123 WIN SHAREWARE	$79
194	MS WINDOWS 3.1 SHAREWARE	$55
195	KEY FONTS PRO	$65
196	MS WORKS FOR WINDOWS	$42
198	SO MUCH SHAREWARE III	$22
199	WHO KILLED SAM RUPERT	$18
200	MICROPROSE 4 TITLE PAK	$23
201	MANIAC MANSION DAY - TENTAC	$47
202	COMPTON'S INTERACTIVE ENCYC.	$89
204	SUPER FONTS	$16
205	DR. FUN PAK	$19
206	DR. GAMES VOL.1	$15
207	DR. MUSIC VOL.1	$15
208	DR. SHAREWARE VOL.1	$15
209	DR. WINDOWS SHAREWARE VOL.1	$15
210	BATTLE CHESS ENHANCED	$24
211	RETURN TO ZORK	$29
212	ELVIS KARAOKE	$25
213	BUSTY OF BABES VOL. 2	$30
214	KINGS QUEST VI	$23
215	JUST GRANDMA AND ME	$24
216	ECOQUEST	$46
217	DAGGER OF AMON RA	$23
218	STAR WARS CHESS	$20
219	REBEL ASSAULT	$34
220	ADVENTURES IN HEAVEN	$23
221	BIBLE LIBRARY BY KING JAMES	$25
222	BIBLES AND RELIGION	$16
223	CAL.HAWALL GOLF GUIDE & GAME	$23
224	CHAOS AND FRACTULES	$29
225	COOKBOOK HEAVEN	$18
226	COOKBOOK - JIHN SCHUMACHER'S	$29
228	DESKTOP PUBLISHER DREAM DISK	$33
229	DR. GAMES FOR WINDOWS	$18
230	DUNE	$25
231	ELECTRONIC HOME LIBRARY	$23
232	EUROPEAN MONARCH	$31
233	F117A STEALTH FIGHTER	$31
234	FONT FUNHOUSE	$35
235	FRACTOOLS	$29
236	FRESH ARTE	$29
237	FUN HOUSE	$22
239	GAMES EXPERT FOR WINDOWS	$14
240	GREAT WONDERS OF THE WORLD	$22
241	GUNSHIP 2000	$28
242	GUY SPY	$23
243	HACKER CHRONICIES	$25
244	HAM RADIO QRZI	$17
245	INCA	$24
246	LEARNING HEAVEN	$21
247	LEGEND OF KYRANDIA	$29
248	MAD DOG McCREE	$43
250	MONEY, MONEY,MONEY	$19
251	NORTH AMERICAN INDIANS	$29
252	OCEAN BELOW	$23
253	OFFICER'S BOOKCASE	$29
254	PLANT DOCTOR	$29
255	PHOENIX 4.0 SHAREWARE	$19
256	POWER PAK GOLD	$23
257	PRESCRIPTION DRUGS	$29
258	PUBLIQUE ART	$29
259	PUBLISHER'S PARADISE	$24
260	PUBLISHER'S POWER HOUSE	$23
261	STRAIGHT FROM HEAVEN	$22
262	STRUCK BY LIGHT	$25
263	STW 4 TITLE PAK	$29
264	STW GROLIER'S ENCYCLOPEDIA 6.0	$45
265	SUPER CLIPART	$16
267	SUPER GAMES FOR DOS	$18
268	SUPER GAMES FOR WINDOWS	$15
269	SUPER PROGRAMMER	$18
270	SUPER SHAREWARE LIBRARY	$19
271	SUPER SHEREWARE LIBRARY II	$19
272	SUPER WINDOWS SHAREWARE	$18
273	SUPER WINDOWS SHAREWARE II	$18
274	UP ALL NIGHT	$23
275	U.S. ATLAS	$17
276	U.S. PRESIDENTS	$29
277	VGA SPECTRUM	$23
278	WINDOWS MASTER	$24
279	WINDOWS PLATINUM	$23
280	ADULT PALATE****	$39
281	AMERICAN GIRLS****	$39
282	DIGITAL DANCING INTERACTIVE****	$49
283	DIRTY TALK****	$42
285	GORLS OF J.STEPHEN HICKS****	$39
286	HIGH VOLUME NUDES****	$38
287	L.A. STRIPPERS****	$45
288	LEGENDS OF PORN****	$45
289	MYSTIC OF THE ORIENT****	$45
290	NEW MACHINE SAMPLER****	$22
291	NEW WAVE HOOKERS****	$42
292	NIGHT WATCH INTERACTIVE****	$49
293	PHONE SEX-WINDOWS****	$26
294	PHOTO GROUP I	$36
295	Q69****	$45
296	SUPER SMUTWARE****	$34
297	TRACY LORDS I LOVE YOU****	$38
299	WICKED-THE MOVIE****	$49
300	WILD WOMEN****	$34
301	SHAREWARE HEAVEN	$19
302	DEBBIE DOES DALLAS	$38
303	PC SIG 13 SHAREWARE	$22

UMIRACLE MICROSYSTEMS
43038 Christy Street Fremont CA 94538

Phone: 510-226-6746
Fax: 510-226-6758
Mon to Sat 9:00AM-6:00PM PST

Mail Order Welcome! - Order before 10:00AM and we will ship to you the same day, or we will pay the freight!

QUALITY PRODUCTS, AT UNBEATABLE PRICES. WE'VE MADE THEM MORE AFFORDABLE TO EVERYONE THAN ANYONE ELSE - ONLY FROM UMIRACLE.

Only $305

AIR-MIS Series
486 ISA VLB 256K

- BIOS and ChipSet: AMI, SIS 85C461
- CPU Support: 486SX/DX/DX2-25/33/40/50/66MHz, P5 OverDrive
- Cache Size: 64K/128K/256K/512K
- Main Memory: Up to 64MB onboard
- Slots: 2 32Bit-VESA Local Bus, 6 16-bit ISA,
- Onboard Ports: 2 Serials, 1 Parallel, FD and VLB IDE Interface Built-in onboard.

When it comes to versatibility, this motherboard is second to none. A VLB motherboard supports 72 Pin SIMM for more configuration combinations, built-in I/O provides 2 serials, 1 parallel, floppy interface and VLB IDE controller. Plus, it comes with an Adaptec VLB SCSI-2 interface so that you can hook up any SCSI devices. It comes with EZ-SCSI from Adaptec too!

AIR-SH Series
486 Green VLB 256K

Only $120

- BIOS and ChipSet: AMI, SIS 85C461
- CPU Support: 486SX/DX/DX2-25/33/40/50/66MHz, P5 OverDrive
- Cache Size: 64K/128K/256K
- Main Memory: Up to 32MB onboard
- Slots: 3 32Bit-VESA Local Bus, 6 16-bit ISA, 1 8-bit ISA
- Green PC - CPU clock-slow-down and monitor shut-down Support

Only we can make this high-quality U.S. Made Motherboard this affordable! Why buy oversea product when you can spend the same amount for thoroughly tested, fully-supported, trouble-free motherboard?

AIR-QAccess
VLB SCSI-2 IDE Controller

Only $135

QAccess is the best deal when it comes to shopping for a VLB SCSI-2 Controller. Name brand controller can cost you three hundred bucks for just the SCSI. With QAccess, you get VLB IDE, 2S/1P/1G, all on one card! It ain't no weak performance, in fact it scored highest in Winmark 3.11 DiskMark test - 55.154Mb/s compare to BusLogic 445S 54.53Mb/s and Ultrastor 34F 45.45Mb/s. Afterall, it costs half and it gives twice as much! And it comes with Adaptec EZ-SCSI software for fully software compatiblity support. Why not?

Only $340

AIR-EI Series
486 EISA VLB 256K

- BIOS and ChipSet: AMI, SIS 85C406
- CPU Support: 486SX/DX/DX2-25/33/40/50/66MHz, P5 OverDrive
- Cache Size: 64K/128K/256K/512K
- Main Memory: Up to 256MB onboard using 72Pin SIMM
- Slots: 3 32Bit-VESA Local Bus, 8 16-bit Bus-Mastering EISA

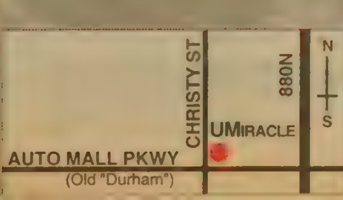
8 full bus-mastering EISA slots with 3 VLB extension, supporting any bus architecture you want. Dallas 10 year on-board battery remains life for 10 years. 72Pin SIMM gives you more memory combination you can imagine!

Quantum Hard Disks Best Price in town! WholeSale or Retail! Call 510-226-6792!

VARs, Dealers, Resellers, Please Call for Bottom Wholesale Prices

Phone: 510-226-6746
Fax: 510-226-6758
Mon to Sat 9:00AM-6:00PM PST

ATM
COD



UMiracle
UMIRACLE MICROSYSTEMS
43038 Christy Street Fremont CA 94538

USER GROUP NETWORK

BULLETIN BOARDS

MULTI-ZONE

The Adventure Connection. (408)985-1529, 732-4908; (415)321-3661, 365-7002, 573-1063, 244-9218; (510)797-4101. 24 hrs., Multiuser, interactive D&D style fantasy adventure game (similar to MUDD), chat parlor. [Exp. #120.]

First Online. (408)257-5800; (415)334-2400, 598-0398; (510)426-6030, 797-8730. Over 30,000 files, 4.2GB, PC-SIG library, adult files. PC and compatilbes. [Exp. #121.]

Interactions BBS. (408)258-8913, (415)469-5510, (510)832-0560 Twelve line chat (over 18 only). Two-week free trial. Sysop: C. Watson. [Exp. #120.]

Lambda. (415)572-2591, 755-9439; (510)268-9891. Adult, mostly gay/lesbian, all are welcome, email, chat, matching. Free trial. [Exp. #120]

'Lectrick Blue. (510)376-3805, 525-5332, (415)255-6293. 300/1200/2400/9600/14,400. Internet, Usenet, WWIV-Net, WWIV-Link, VBBS-Net, Fido, Adult-Net, Icenet, 350-plus message bases, games, and more. [Exp. #120.]

Nasty Playmates. (408)374-2627, 254-4221; (415)903-0898, 367-6283; (510)713-0703, 276-5446. 32 lines of naughty fun. Adult chat, matchmaker, personal ads, X-forums and file areas. Over 18 only. [Exp. #122.]

Paul Revere Network. (209)472-0843; 438-7621; 795-1474, 998-8845; (408)947-7800; (510)791-8264; (707)427-1310; (916)361-2827. Nationwide 50+ node BBS network of grassroots firearms rights activists. PRNKIT.ZIP file for full nodelist. [Exp. #121.]

Pro-Line BBS. (408)226-3880, (415)390-2923, (510)888-1130. 24 hrs. Chat, matchmaking, database, lifestyles, email, and more. [Exp. #120.]

209

BerthaBoard. (209)823-0093. Up to 21,600. HST/V.32ter. Two lines, 6+GB, 65,000+ files, large message base. [Exp. #121.]

Exxxtacy BBS. (209)962-4045. Over 10,000 adult files. New member bonus. Free adult video with membership. [Exp. #120.]

The Haunted Castle BBS. (209)826-1900. 2.3 Gig, 10,000+ files online, echo mail, multimedia, Gifs, games, and more. Since 1989. Sysop: David Clifford. [Exp. #122.]

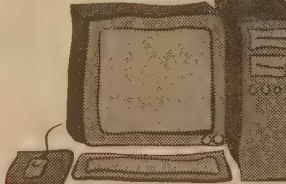
408

#1 Fun Seekers. (408)379-0958. 8-N-1, 24 hrs., up to 38,400. IBM files for all ages. Adult too. 4 lines. [Exp. #121.]

A32 Macintosh Users Group BBS. (408)378-8252. 24 hrs., 9600. Mac, FirstClass. [Exp. #120.]

Amateur Action BBS. (408)263-3393. 8-N-1, 18,000. Adult amateur GIF files, 32 lines. [Exp. #120.]

finally, a good reason
to use the
computer.



- 16 lines
- 1200 - 14.4k bps (all lines)
- Sizzling public and private live chat out there - meet people to party with!
- 7 *fast* CD-ROM drives online, both Adult and Public Domain software
- Public & private message bases for *hot* correspondence
- running TBBS software
- Public and Private message areas
- Online Browsing of user profiles
- Huge collection of non-CD files (countless adult GIF pictures)
- See classified ads from this magazine *before* they're published!
- Several reasonable membership rates
- Now available in Southern CA!

pathway bbs
get into the swing of things

8N1 · ADULTS ONLY · Free Sample Files
Voice Info: 408.956.5650
(membership rates can be found online.)

northern california
408.956.5600
Fremont, Newark area - 510.790.3127
southern california (new!)
714.741.0900

A.S.D.I.P. (415)468-3886. 14,400. We are new, deal in adult issues, and offer a free test drive! Three lines, over 8GB online. [Exp. #122.]

Autos Online. (408)356-1306, 356-3866, 358-2010, 356-1125. 1200/2400. Shop Bay Area new car dealer inventories, private party for sale and wanted. Join vehicle related forums. No fee. [Exp. #120.]

BayNar-Net. (408)926-8547. 24 hrs., 2400. Model rockerty, astronomy, IBM programs, family oriented, NAR affiliated. Sysop: Phil Hayton. [Exp. #121.]

Burn This Flag. (408)363-9766. 14,400. Esoteric text files and message system for closet Luddites, two lines. NIRVANAnet. [Exp. #122.]

Casa del Cyborg. (408)457-2654. 24 hrs., 14,400. First class GUI, Mac files, and active message base. OneNet member. Free. Sysop: Curt and Emil. [Exp. #121.]

The Checker Demon BBS. (408)264-9018. 8-N-1, 14,400. Comic and RPG BBS! Focus on Hero Games products. Sysop: John Taber. [Exp. #121.]

Cruzio. (408)423-9995 (2400 bps), 423-1987 (9600 bps). 8-N-1, 1200/2400/9600/19,200. 10 lines, UseNet news, email, ftp, gopher, IRC, MUD. Sysop: Chris Neklason & Peggy Dolgenos. [Exp. #120.]

Data Vortex Comm. BBS. (408)685-1502. 8-N-1, 1200/2400/9600/14,400. Host/gateway to 1200+ system. "Tech Net," files, forums, and global chat. Sysop: Michael Welch. [Exp. #121.]

Escape To Other Worlds BBS. (408)956-1750. 8-N-1, 1200/2400/9600/14,400. SF/fantasy, comics, games, msgs., four lines, D/L files. Mac and PC GIFs, 1.8GB. [Exp. #121.]

Grey Matter BBS. (408)749-0740. 8-N-1, 14,400. RIP graphics, online games, adult graphics, computer consulting. DOS, Windows, games, and more. Free. Sysop: [Exp. #121.]

The LaserBoard. (408)268-4863, 268-6323. 24 hrs., 14,400. RIME, local TNET, and Wildnet conferences. Soon to carry USENET. Call for latest files. Free. Sysop: Shawn Higgin. [Exp. #120.]

LINCS-BBS. (408)294-6933. 8-N-1, 300/1200/2400/9600/14,400. Disability, chronic health and other conditions that affect children. Resource directory, internet mail, and more. [Exp. #120.]

Mariposa BBS. (408) 847-8508. 8-N-1, 24 hrs., 19,200. IBM files: educational, games, religion, business, and entertainment. Sysop: Alex L. Raposa. [Exp. #120.]

The Meating Place BBS. (408)926-6174. 24 hrs., 14,400. Gay/Bi, 9 lines, email, chat, matchmaker, GIFs, and more. System password: Micro. [Exp. #122.]

Megamedia Multimedia BBS. (408)428-9901, 428-9926. 24 hrs., 28,800. 3GB of files, multimedia, windows, NT, and more. Download files on first call. Sysop: Raaj Menon. [Exp. #120.]

Mongoose BBS. (408)733-3034. 24 hrs., 14,400. SmartNet, adult files, latest sharewares on CD-ROM. Free. Sysop: Robert Yagmourian. [Exp. #121.]

Monterey Gaming Systems. (408)655-5555. 300/1200/2400/9600/14,400 on all 24 lines. Free Internet, email, live chat, contests, games. Free. [Exp. #121.]

Nitelog BBS. (408)655-1096. 24 hrs., 300–16,800. DOS/Windows/OS2 adult files, 24 lines, 6.3GB. Sysop: Karl Van Lear. [Exp. #120.]

Pacific Exchange BBS. (408)946-8561. 12 lines, 50,000 IBM/Windows files, adult files, online news, games, and more. [Exp. #120.]

Paradise City BBS. (408)280-6630. 1200-57,600. Over 35,000+ of the newest files including adult. Relaynet (tm)network email. Free first call. Sysop: Jim Reed. [Exp. #121.]

RC Labs BBS. (408)732-5353 14,400. AutoCAD and 3-D Studio files and topics. Sysop: Andy Joncich. [Exp. #120.]

The Screamin' Mac BBS. (408)257-2029. 8-N-1, 24 hrs., All fun. Mac-based with some IBM files. ANSI graphics supported. Sysop: [Exp. #121.]

SJ Advisor. (408)274-6004. 10 am-10 pm. 300/1200/2400/9600. Politically oriented. San Jose, Santa Clara County, some CA and Federal. Sysop: [Exp. #121.]

The Support Network BBS. (408)259-0297. 8-N-1, 2–8 pm. 1200/2400/9600. Community computing for Santa Clara County. Now with RIP graphics. Sysop: Frank

Continued

BAY AREA BBSes

By Kathleen Creighton

Quake Resources Online

The recent Northridge earthquake in Southern California caught the attention of the six million amateur geologists in the Bay Area. Was the quake on the San Andreas fault? What does an earthquake in Southern California mean for me? What is the "ring of fire"? Does Jack Coles really "predict" earthquakes?

I've done an overview of seismic BBSes before, but a couple of new services have been added.

Commercial Online Services

If you have an account on a commercial online service, check to see if the scope of the disaster has merited a forum all its own. In the past, almost all of the commercial services have had a special area set aside for first-person reports and check-ins for regular users known to live in the affected area, as well as messages from outside the area wanting to know the conditions in specific geographic locations.

As we know, being in the center of an earthquake poses a number of problems related to online life. There's a good chance that if our housing and computer equipment has survived an earthquake, we won't have power for a period of time, and if we do have power, we really shouldn't be using the phone more than is necessary. However, being able to check in online, or having a friend or relative online check in for you, can assure all of your online contacts that you are okay. Online life may be virtual, but if you are an active participant in some online group, the concern for your well-being is real.

ca.earthquakes

If you don't have an account on a commercial online service, but do have an Internet account, Usenet newsgroup *ca.earthquakes* is the home to seismic "I felt it, did you?" postings, and USGS and CalTech employees—some of the very same people you see on TV after a California earthquake—stop in to give the latest information.

A number of Bay Area BBSes also gate this newsgroup in as an echo message area. It's a very lively group. If you're feeling ignored and are tired of logging on to your Internet account and not getting any new mail, try posting to this group that you really do believe psychics can predict earthquakes and watch your online social life heat up.

finger quake@geophys.washington.edu

You can also use your Internet account to get the latest information about earthquake events worldwide by invoking:
finger quake@geophys.washington.edu
This is actually a .plan file, so access is quick and uncomplicated. (The clever among you can set up your own "information service" via your Internet .plan file.)

Office of Emergency Services

The State of California Office of Emergency Services has information online, its Emergency Digital Information Service. People who used this after the Northridge quake found a lot of information that was not reported by the media. EDIS has news releases, background information,

Continued

Assembled In America

Symphony COMPUTERS™

PRIME COMPUTERS PERFECT PRICE

408.980.8325

3460 EDWARD AVE. ● SANTA CLARA ● CA 95054

SUPER SPECIAL OF THE MONTH

MINI TOWER CASE W/230W PS	$39
MID. TOWER CASE W/230W PS	$59
FULL TOWER CASE W/250W PS	$79
386DX-40MHZ MB W/CPU & 128K CACHE	$89
BIOTEQ 486VLB MB W/256k W/O CPU	$89
IBM 486SLC2-66 VLB MB W/64K & CPU & MATH	$298
IBM 486B/L x 3.75 VLB MB W/256K & CPU & MATH	$668

INFINITY-2000™
ISA BUS SERIES
486 & 386

- ⇨ MOTHERBOARD w/ CPU
- ⇨ 128K FastCache
- ⇨ 4MB RAM Installed
- ⇨ NEC 1.2MB & 1.4MB Drives
- ⇨ IDE Controller 2HD & 2FD w/2S, 1P, 1G port
- ⇨ 250MB CONNER IDE Hard drive
- ⇨ Super VGA w/512K
- ⇨ 14" Super VGA Color Monitor
- ⇨ Chicony 101 Enhanced Keyboard
- ⇨ Mini Tower Case w/ 230W Power Supply
- ⇨ *Free Dos w/ Book & Disks*

SALE

250MB HARD DRIVE SPECIAL

INTEL 486DX2 - 66 (256K Fast cache)	$1298
INTEL 486 DX - 50 (256K Fast cache)	$1238
INTEL 486DX -33 (256K Fast cache)	$1088
486DLC - 40	$ 898
IBM 486SLC2 - 50 (No cache memory)	$ 928
AMD 386DX-40 (210MB IDE HARD DRIVE)	$ 798
AMD 386DX - 40	$ 838

Motherboards

486SLC - 33MHZ w/ CPU	$98
486DLC - 40MHZ w/CPU	$128
VL-Bus Genoa 486-33/50/66 256K w/o CPU	$138
Genoa Turbo Express 586z PCI 60/66 256K w/o CPU.	$418

Video Graphics Card

Curis Logic Card w/512K ISA	$38
Curis Logic Card w/1MB ISA	$58
Trident VL-Bus 9200 w/1MB	$78
Genoa VL-Bus 8500 w/1MB	$98
Genoa VL-Bus 8600 w/1MB & w/IO	$138
Genoa Phantom 32I w/ 2MB	$218
Cardex ET-4000 W32 VL-Bus w/1MB	$128
Cardex ET-4000 W32 VL-Bus w/2MB	$188

Hard Drives

IDE	
Quantum 170 IDE 15MS	$185
Quantum 270 IDE Fast	$245
Western Digital 250 13MS	$228
Maxtor 340 13MS	$258
Western Digital 420MB 12MS	$298
Western Digital 540MB 12MS	$438
Conner 250MB 14MS	$228

Monitors

14" SVGA . 39 Interlaced (Full Screen)	$189
14" SVGA . 28 Interlaced (Full Screen)	$218
14" SVGA . 28 Non-Interlaced (Full Screen)	$238
15" ViewSonic 15E Non-Interlaced	$378
15" NEC 3V Non-Interlaced	$528
15" NEC 4FGE Non-Interlaced	$678
17" Viewsonic 17FG Non-Interlaced	$838

INFINITY-2000™
SUPER BUS BASIC SERIES
486 VESA

- ⇨ 486 VL BUS MOTHERBOARD
- ⇨ PENTIUM OVER DRIVE P24T Support (For Intel Inside System)
- ⇨ **256K Fast Cache**
- ⇨ 4MB RAM Installed
- ⇨ NEC 1.2MB & 1.4MB Drives
- ⇨ Super VL-Bus Ultra Fast IDE Controller w/2S,1P&1G port
- ⇨ 250MB CONNER 12MS IDE Hard Drive
- ⇨ Windows Accel. VLB w/1MB (32 Bit)
- ⇨ 14" Super VGA Color Monitor
- ⇨ Chicony 101 Enhanced KeyBoard
- ⇨ Mini. Tower Case w/230W power supply
- ⇨ *Free Dos w/ Book & Disks*

VL-BUS 32BIT IDE & VIDEO Installed

SALE

BASIC III 486DX2-66 (Intel Inside)	$1398
BASIC II 486DX-50 (Intel Inside)	$1348
BASIC I 486DX-33 (Intel Inside)	$1198
BASIC 1A 486DX-40 (AMD)	$1198
IBM III 486SLC2-66 (IBM Mainboard; 64K cache)	$1088
IBM IV 486B/L x 3 -75 (Pentium upgradable, Math, 256K cache, NI monitor, 340MB WD, Mid. Tower)	$1658

INFINITY-2000™
ADVANCED BUS PENTIUM PCI SERIES
GENOA

- ⇨ GENOA TURBO EXPRESS 586PCI MOTHERBOARD
- ⇨ 64-Bit Pentium/PCI Architecture
- ⇨ 60MHZ INTEL PENTIUM PROCESSOR
- ⇨ 256K WRITE-BACK FAST CACHE, 16K ON CPU
- ⇨ 16MB RAM 72 PIN Exp. to 128MB
- ⇨ NEC 1.2 MB & 1.4 MB Drives
- ⇨ SUPER 32BIT ULTRA PCI INTERGRATED IDE CONTROLLER INTERGRATED 2S,1P,1G PORT
- ⇨ 540MB WD FAST12MS IDE HARD DRIVE
- ⇨ GENOA PHANTOM 32I Ultra Fast PCI 8900 Series w/ 2MB Display 16.8 million colors
- ⇨ 15" VIEWSONICNON-INTERLACED Super VGA Color Monitor (Flat, Full , Border-Less Screen)
- ⇨ Chicony 101 Enhanced Key Board
- ⇨ 3-PCI (32Bit) Slots, 4-16Bit ISA Slots
- ⇨ Full Size Tower Case w/ 250W power Supply
- ⇨ *Free Dos w/Book & Disks*

SUPER SPECIAL	$3398

INFINITY-2000™
SUPER BUS LEVEL SERIES
GENOA VESA

- ⇨ VESA LOCAL BUS
- ⇨ GENOA TURBO EXPRESS 486 MOTHERBOARD
- ⇨ PENTIUM OVER DRIVE P24T Support
- ⇨ Intel 486 Processor
- ⇨ 256K FAST CACHE
- ⇨ 4MB RAM Exp. to 32MB
- ⇨ NEC 1.2 MB & 1.4 MB Drives
- ⇨ 340MB FAST 13MS IDEHard Drive
- ⇨ Genoa 32Bit VL-Bus Ultra HighPerfor. Graphics Display & True 16mill. colors wind. Accl.Video Card w/1MB
- ⇨ Super VL-Bus Ultra Fast IDE Controller w/2S,1P&1G port
- ⇨ 14" NON-INTERLACED Super VGA Color Monitor .28 (Full Screen / Borderless)
- ⇨ Chicony 101 Enhanced Key Board
- ⇨ Medium Tower Case w/ 230W power Supply
- ⇨ *Free Dos w/ Book & Disks*

BEST BUY

Level III 486DX2-66 (InteL)	$1498
Level II 486DX-50 (InteL)	$1438
Level I 486DX-33 (InteL)	$1298
Level IIIA 486DX2-66 (AMD)	$1458
Level IA 486DX-40 (AMD)	$1298

INFINITY-2000™
MULTIMEDIA PRO SERIES
GENOA VESA

- ⇨ VESA LOCAL BUS
- ⇨ GENOA TURBO EXPRESS 486 MOTHERBOARD
- ⇨ PENTIUM OVER DRIVE P24T Support
- ⇨ Intel 486 Processor
- ⇨ 256K FAST CACHE
- ⇨ 4MB RAM Exp. to 32MB
- ⇨ NEC 1.2 MB & 1.4 MB Drives
- ⇨ 340MB FAST 13MS IDEHARD DRIVE
- ⇨ Genoa 32Bit VL-Bus Ultra HighPerfor. Graphics Display & True 16mill. colors wind. Accl.Video Card w/1MB
- ⇨ Super VL-Bus Ultra Fast IDE Controller w/2S,1P&1G port
- ⇨ 14" NON-INTERLACED Super VGA Color Monitor . 28 FULL SCREEN / BORDERLESS
- ⇨ Chicony 101 Enhanced Key Board
- ⇨ Medium Tower Case w/ 230W power Supply
- ⇨ *Free Dos & Window 3.1 w/Books & Disks*

Plus 7 popular CDs Titles

- Multimedia Encylopedia
- The Animals
- The World Atlas (MPC)
- The U.S. Atlas (MPC)
- Mavis Teaches Typing
- The Chess Master
- Kodak Photo CD

Multimedia Package:

- Original Sound Baster 16 (stereo)
- Fast 280MS AVE. CD-ROM Drive (64k Bytes/Sec)
- Photo CD Multisession
- Monitor Mount Stereo Speakers
- Free Mouse & Mouse Pad

Intel inside

Media Pro III 486DX2-66	$1948
Media Pro II 486DX-50	$1898
Media Pro I 486DX-33	$1748

INFINITY-2000™
MULTIMEDIA BASIC SERIES
486-50MHZ

- ⇨ ALARIS MOTHERBOARD
- ⇨ IBM 486SLC2-50MHZ CPU
- ⇨ 4MB RAM INSTALLED
- ⇨ NEC 1.2 MB & 1.4MB Drives
- ⇨ 250MB CONNER FAST IDE HARD DRIVE
- ⇨ SVGA Card w/1MB Display
- ⇨ 14" Super VGA Monitor . 28 (Borderless/Full Screen)
- ⇨ IDE Controller 2HD & 2FD w/2S,1P,1G Port
- ⇨ Chicony 101 Enhanced KeyBoard
- ⇨ Mini Tower Case w/ 230W Power Supply
- ⇨ *Free Dos w/ Book & Disks*

Plus 3 Popular CDs Titles

- Multimedia Encyclopedia
- World Atlas
- U.S. Atlas

SUPER BUY

Multimedia Basic Package:

- Original Sound Blaster Pro Deluxe (Stereo)
- Internal CD ROM Drive
- 64 KB Buffer, Photo CD multisession
- Sheiled Speaker & Mouse w/pad

Over $500 of Free Software

Super Speed Super Price

SUPER SPECIAL	$1298

INFINITY-2000™
MULTIMEDIA ADVANCED SERIES
GENOA VESA

- ⇨ VESA LOCAL BUS
- ⇨ GENOA TURBO EXPRESS 486 MOTHERBOARD
- ⇨ PENTIUM OVER DRIVE P24T Support
- ⇨ Intel 486 Processor
- ⇨ 256K FAST CACHE
- ⇨ 4MB RAM Exp. to 32MB
- ⇨ NEC 1.2 MB & 1.4 MB Drives
- ⇨ 420MB WD FAST 12MS IDE HARD DRIVE
- ⇨ Genoa 32Bit VL-Bus Ultra HighPerfor. Graphics Display & True 16mill. colors wind. Accl.Video Card w/1MB
- ⇨ Super VL-Bus Ultra Fast IDE Controller w/2S,1P&1G port
- ⇨ 14" NON-INTERLACED Super VGA Color Monitor .28 FULL SCREEN / BORDERLESS
- ⇨ Chicony 101 Enhanced Key Board
- ⇨ Full Size Tower Case w/ 250 Power Supply
- ⇨ *Free Dos & Window 3.1 w/Books & disks*

Plus 9 popular CDs Titles

- Multimedia Encylopedia
- The Animals
- World Atlas (MPC)
- The U S. Atlas (MPC)
- Mavis Teaches Typing
- The Chess Master
- Kodak Photo CD
- Wing Commander
- Ultima VI

Multimedia Adv Package:

- Original Sound Baster MCD16 (stereo)
- Super Fast Double Speed CD-ROM Drive (250MS, 350KB*)
- Photo CD Multisession; 64K Buffer
- Big Stereo Speakers
- Free Mouse & Mouse Pad

OVER $1200 OF Multimedia Software Bundle

Media Advanced III 486DX2-66	$2168
Media Advanced II 486DX-50	$2118
Media Advanced I 486DX-33	$1968

Symphony COMPUTERS™

NORTHERN CALIFORNIA BRANCH
3460 EDWARD AVE.
SANTA CLARA, CA 95054
TEL. (408) 980-8325
FAX. (408) 980-8327

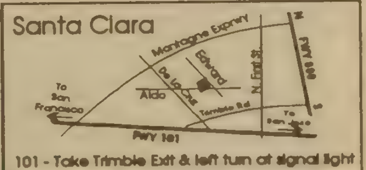
SOUTHERN CALIFORNIA (HQ)
9620 E. LAS TUNAS
TEMPLE CITY, CA 91780
TEL. (818) 309-9345
FAX. (818) 309-7579

☑ SUPERIOR QUALITY CONTROL
☑ FREE LIFE TIME HARDWARE TECHNICAL SUPPORT

Store Hours: MON. - FRI. 10:00AM - 6:30PM,
SAT*. 11:00AM - 6:00PM (Sales Dep.)

* Store hours subject to change w/ out notice.
Price, terms, availability are subject to change w/out notice. All System's prices reflected a $45.00 cash discound. Not responsible for typographical errors.

Santa Clara



101 - Take Trimble Exit & left turn at signal light Then turn right the second signal at Aldo Ave.
880 - Take Montague Exit & left turn at De La Cruz Blvd. Then left again on Aldo

BBSes continued...

Arnold. [Exp. #120.]

The Virtual Reality BBS. (408)246-5434. 8-N-1, 300/14,400. Games, files, and Net mail. Free. Sysop: Jim Busby. [Exp. #122.]

415

AHA Hydrogen BBS. (415)494-3116. 8-N-1, 1200/2400/9600/14,400. Alternative energy info—prosperity without pollution. [Exp. #121.]

Anatomically Correct BBS. (415) 856-8425. 24 hrs., 2400. Discussions of adult issues, more than 100 X-rated stories. No GIF files. Free. Sysop: Howeird. [Exp. #120.]

The Back Door v2. (415)756-6238. 28,800. 48 lines, adult and alternative lifestyles, Internet, health info, online games, and more. 18 and over only. [Exp. #122.]

Bay Area Luv Connection. (415)822-7550. 24 hrs. Adult board, 16 lines. Fee. Voice: (415)239-1028. Sysop: Ronnie Parker. [Exp. #122.]

Bay Window BBS. (415)755-2939. 9 am–11 pm. Friendly BBS, no GIFs, no routed files, no handles. DOS, games, utils., Windows. Sysop: Judy. [Exp. #122.]

California Online! (415)331-4081. 14,400. 20 Lines, wide local calling area. Internet email, USENET newsgroups, realtime Internet gateway. Sysop: Jim Thornson. [Exp. #120.]

Career Connections. (415)917-2129, 917-2125. 8-N-1, 24 hrs. View and respond online to career opportunities. Free. Sysop: S. Dave. [Exp. #122.]

Clipboard. (415)239-0454. 28,800. Clipper/IBM programming files, FidoNet, Intelec, Internet newsgroups, and doors. Sysop: George Jereza. [Exp. #122.]

ComPUCall. (415)703-1297. 7-E-1, 1200/2400. California's Public Utilities Commission's calendars, decisions, releases. [Exp. #120.]

Creekside BBS. (415)343-5692. 1200/2400/9600/14,400. Genealogy & history files and messaging. Intelec, Seeknet, Science Factor Net, GTpowerNet. [Exp. #120.]

The Elfspire Tome BBS. (415)595-2387. 1200/2400/9600. A fantasy roleplaying G.M. resource bulletin board featuring roleplaying, games, fantasy clipart, and more. [Exp. #120.]

5-Star BBS. (415)703-0150. Formerly Tangent. Gay/bi cruising, dating, and chatting. Oracomm software, 8 lines. Adult only. [Exp. #120.]

Fog City. (415)863-9697. 8-N-1. Gay & lesbian community/chat, matchmaking, CD-ROMs, games. Internet email. [Exp. #121.]

Fun University Network. (415)327-4591. 8 lines. Free graphical interface, hosted multi-player simulation games, current events focus. Sysops: Wendie, Mike, Lisa, and Scott. [Exp. #121.]

Global Trade Net. (415)668-0422. Devoted to facilitating international trade theory and practice. Job Bank and Business development areas. [Exp. #122.]

Graveyard Shift BBS. (415)397-2812. 1200/2400/9600/14,400. 100% adult files, Throbnet, Swingnet, Wildcat 3.9 RIP, 8 lines. [Exp. #121.]

Hotline Computers BBS. (415)349-5136. 2400. Computer users' subjects, 1.2GB files, classifieds, shopping. Free. [Exp. #120.]

HTG/Outreach BBS. (415)572-9594. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Gay/lesbian/bisexual/transgender, community system. six lines. Chat, files, FidoNet, GayNet, PODnet. Free access on two lines. Sysop: Sagittarius. [Exp. #120.]

IBBS West. (415)564-9996. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Five lines, PC compatibles, Internet mail, shareware, util., adult GIFs, two CD-ROMs. Fee. [Exp. #122.]

Incipits Remote BBS. (415)359-2067, 359-2068. 1200–38,400. Tons of DOS, OS/2, and UNIX shareware. Distribution point for 386BSD PD UNIX and X11. [Exp. #120.]

InfoDude Communications. (415)855-9500. 24 hrs., 2400/9600/14,400. Email, teleconferencing, forums, file areas. First thirty hours free; $3 a month after that. Sysop: Joseph A. Jenkins. [Exp. #120.]

The Informer BBS. (415)468-6713, 468-6714, 468-6715. 24 hrs., 2400–14,400. TCalNet, Intelec, FamNet, WindNet, Newlife, Operating Systems, Tech Specs, and more. Sysop: John Custer. [Exp. #120.]

In Sync. (415)507-9463. 14,400. Online door games, GIFs, CD-ROM, and more. $5 registration fee. Sysop: Tektronix. [Exp. #120.]

Intimate Images. (415)598-0898. 1200/2400/9600/14,400/16,800. Original adult images and video clips. The Bay Area's finest adult files. [Exp. #121.]

Key Software Products BBS. (415)364-9847. 5 pm–8 am, 24 hrs. wknds. 1200/2400/9600. Tech support for the Last Byte Memory Manager. Internet email, faxmail. Free. Sysop: Dan Lewis [Exp. #122.]

Near Side BBS. (415)369-5063. 14,400. Software support, online games, growing transfer sections. Reg. requested. [Exp. #122.]

New Dork Sublime. (415)864-DORK, 255-NERD. 14,400. As seen in *The National Enquirer*, two lines, NIRVANAnet. [Exp. #122.]

Recovery BBS. (415)255-2188. 8-N-1, 300/1200/2400. Dedicated to 12-step recovery programs. AA, NA, Al-Anon/ACA, SLAA. Recovery and 12-step Echos. Fido 125/9. Sysop: Rich Gorlin. [Exp. #122.]

R & L Investments. (415)878-9157. 24 hrs., 2400/9600/14,400/16,200/19,200. Large file base, email, online ordering. Business opportunities. RIP graphics. User-friendly. [Exp. #121.]

The Road Not Taken. (415)648-8462. General conversation, discussion of current issues, miscellaneous blather. Free. Sysop: Bryan Magers. [Exp. #120.]

Skeptic's Board. (415)572-0359. Science and fringe science. Internet/USENET access. San Mateo. Sysop: Rick Moen. [Exp. #121.]

Solar Hydrogen BBS. (415)494-3116. 24 hrs., 14,400. Alt. energy info—prosperity without pollution. Sysop: Howard H. Smith. [Exp. #122.]

Starnet Of Los Altos. (415)949-3133. 8-N-1, 24 hrs., 300/1200/2400/9600. Email, UNIX, USENET, UUCP, compilers, public domain software. Local to most 408 areas. [Exp. #122.]

The Trade Center BBS. (415)340-0197. 24 hrs., 28,800. Five lines, patches for Flight Sims (Falcon3), adult files, 1.1GB, Internet

Continued on page 328

GARLIQUE GRAPHICS
WORLD FAMOUS GIF'S
ADULT CD'S
FREE CATALOGS
SUBSCRIBE ON-LINE
AMEX
408-847-0665

NITELOG
22 Nodes BBS
OS2 ◦ DOS ◦ Windows
Win NT & Unix Files
400 + Conferences
Adult Files
Internet ◦ Usenet
Rime ◦ ILink Email
(408) 655-1096 2400 bps
(408) 655-8294 v.32bis
(408) 655-8297USR HST
(408) 655-4211 ZyXel 16.8k
(408) 655-8346 USR 16.8k

The Beggar's Tomb
(408) 243-TOMB
• Adult Gifs
• Adult Internet Newsgroups

Virtual Pleasures BBS
(415) 802-0500
A Literate adult BBS
Chat link, adult forums and GIFs.

Windows OnLine
The Latest Software by Modem / BBS
(Modem) 510-736-8343
(510) 736-4376 Voice - (510) 736-8397 Fax
By CD-Rom
PC-SIG/WOL
"World Of Windows"
CD-ROM
Free CD to New Gold Members
$19.95 to other WOL Members
(Supplies Limited)
By MODEM
☆ 25,000 Windows Files
☆ 14,400 bps - All Lines
☆ 1,500 New Files Every Month
FREE LIMITED TRIAL
☆ 3,500 OS/2 Files ☆ 34,000 DOS Files
☆ 1 Year Membership, $69.95 (Total Cost)
☆ No Hourly And No Speed Surcharges

BBS Column continued...

and national weather service warnings. To reach EDIS: *telnet oes1.oes.ca.gov 5501*

Public Seismic Network

USGS volunteers staff the Menlo Park node of the Public Seismic Network, a four-node BBS network (Menlo Park, San Jose, Pasadena, and Memphis, Tennessee) available to the public (with the caveat that the information on PSN may not reflect the official views of the USGS). These BBSes host message areas as well as downloads of seismic event files, DOS and Macintosh viewing software, California earthquake activity summaries and GIF files, and earthquake preparedness information. (Menlo Park node 415/327-1517, 8-N-1, 2400 baud; San Jose node 408/226-0675, 8-N-1, 2400 baud, Steve Hammond, sysop)

> *Being able to check in online can assure all of your online contacts that you are okay. Online life may be virtual, but if you are an active participant in some online group, the concern for your well-being is real.*

The Online User's Encyclopedia

I was told that someone else at *MicroTimes* will be writing the review of *The Online User's Encyclopedia, Bulletin Boards and Beyond* by Bernard Aboba (Addison-Wesley Publishing Company, 1993, ISBN 0-201-62214-9, $32.95), but I can't let this opportunity pass without offering my two cents. It's an outstanding work that ranges from novice-level information to more technical information than anyone would want to know. The scope of the book and Aboba's net-veteran conversational style will have you picking up the book to browse time and time again. Buy a copy and keep it next to your favorite reading chair.

Suggestions?

I'm always looking for good column ideas and interesting and unusual boards or Internet neighborhoods to explore, so I'm happy to hear from you! Email me at *casey@well.sf.ca.us*, as US mail sent to me in care of *MicroTimes* takes a while to reach me. ■

Copyright © 1994 by Kathleen Creighton. All rights reserved.

GRAVEYARD SHIFT BBS
NO CENSORSHIP!
As HOT AS IT GETS!
100% ADULT
(415) 397-1038
(510) 526-2338
all models over 18.Caller must be over 18!

Senior Engineer Scott Said:
Legned 486 System has the best Quality

Special Sale!!!

Multimedia Local Bus System

$1189

- 486-33 MHZ 128K cache VLB
- Upgradable to DX2-66
- 4 MB Memory Installed
- IDE/I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive (Teac)
- 1.44 MB Floppy Drive (Teac)
- 200 MB Hard Drive
- Super VGA Card
- 14" 1024x768 SVGA Monitor
- Enhanced Case with Power Supply
- Microsoft Serial Compatible Mouse
- 101 Enhanced Keyboard
- CD-ROM & 16 Bit Sound Card
- A Pair of Speakers
- Complete Manual and Software Drivers
- 6 CD Titles

Monthly Special

MITSUMI
Double Speed CD ROM
w/Interface Card and Cable

- 250 ms Acess Time
- 350Kb/sec Transfer Rate

$ 165

GREEN PC's AVAILABLE

486DX2-66 64K cache Local bus system	486DX-50 64K cache Local bus system	486-40 128K cache Local bus system	486-33 128K cache VLB
$ 642	$ 599	$ 279	$ 269

386-40 128K cache	386SX-33 SYSTEM
$ 222	$ 185

Call for Discount

We Beat Prices

BASIC SYSTEM CONFIGURATION:
Motherboard & CPU, Super High Speed Jumper
1:1 2HD/2FD Controller
1.44MB Floppy Drive. Internal Clock/Calendar
Enhanced Case with Power Supply &
101 Key enhanced Key Board

VLB Pentium System w/256K cache

- Intel Pentium 60MHZ CPU w/Fan
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G) VLB
- 1.2MB Floppy Drive (Teac)
- 1.44MB Floppy Drive (Teac)
- 340MB Hard Drive
- VLB 1 MB SVGA Card
- 14" SVGA 1024X768 0.28 N/I Monitor
- Mini Tower Case With 230W Power Supply
- 101 Enhanced Keyboard

ONLY **$ 2095**

486DX2-66/486DX-50 Local Bus System

- Upgradable to DX2-66
- High Quality Legend Motherboard w Super High Speed Jumper
- 486CPU/128K Cache
- 0 MB RAM Upgradable to 64 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive (Teac)
- 1.44MB Floppy Drive (Teac)
- 130MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower w Case With 230W Power Supply
- 101 Enhanced Keyboard

$1105/1042

486-33/128K w/Bus Master Local Bus System

- Upgradable to DX2-66
- High Quality Legend Motherboard w Super High Speed Jumper
- 486CPU/128K Cache
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive (Teac)
- 1.44MB Floppy Drive (Teac)
- 130MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower Case With 230W Power Supply
- 101 Enhanced Keyboard

$ 695

386DX-40/128K

- 386DX-40 AMD CPU/128K cache
- 0 MB RAM
- IDE w/ I/O (2HD/2FD 2S/P/G)
- 1.44MB FloppyDrive
- 130MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower Case
- 230W Power Supply
- 101 Enhanced Keyboard
- Math. Co-processor Socket

$ 585

MOTHERBOARDS W CPU	
Pentium 60MHZ w/CPU 256K VLB	$ 1400
486/DX2/66/256K VLB w/CPU w/Pentium Socket	$ 575
486/DX50/256K VLB w/CPU w/Pentium Socket	$ 525
486/40/128K VLB w/CPU w/Bus Master	$ 215
486/33/128K VLB w/CPU w/Bus Master	$ 185
486/DX2/66/256K ISA w/CPU	$ 585
486/DX50/256K ISA w/CPU	$ 515
486/DX2/66/64K ISA w/CPU	$ 570
486/DX/50/64K ISA w/CPU	$ 500
486/40/64K ISA w/CPU	$ 190
486/33/64K ISA w/CPU	$ 160
386/40/128K ISA w/CPU	$ 100

VIDEO & NETWORK CARDS	
TRIDEN 1MB CARD	$ 58
CIRRUS LOGIC VLB w/1MB Window Accelerator	$ 85
DIAMOND SPEED STAR VLB PRO 1MB	$ 105
DIAMOND STEATH VLB w/1MB	$ 140
ORCHID FARENHEIT VLB w/1MB	$ 146
NE-2000 COMPATIBLE 10 BASE-T	$ 45

*** PLEASE CALL US FOR CURRENT PRICE**

MONITORS	
14" MONOCHROME	$ 88
14" MONO VGA	$ 105
14" SVGA 0.39	$ 191
14" SVGA 0.28	$ 229
14" SVGA 0.28 NON-INTER.	$ 240
15" SVGA 0.28 MGC	$ 365
15" MAG 15F	$ 448
17" MAG 17F	$ 839
17" SONY 1604	$ 885
17" NANAO 550i	$ 895

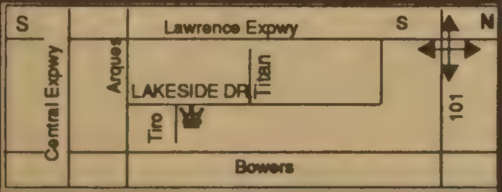
HARD DRIVES & CONTROLLER	
170MB 17MS IDE	$ 178
200MB 12MS IDE	$ 198
250MB 14MS IDE	$ 215
340MB 13MS IDE	$ 275
500MB 12MS IDE	$ 460
540MB 12MS IDE	$ 500
525MB 11MS SCSI	$ 550
1.2GB 10MS SCSI	$ 900
1.2GB 12MS SCSI II	$ 899
2.4GB 12MS SCSI	$1580
IDE w/I/O VLB	$ 26
SUPER IDE W/I/O VLB	$ 45
IDE VLB CACHE up to 16MB	$ 115
ADAPTEC 1522 SCSI/with KIT	$87/138
ADAPTEC 1542C/1542CK SCSI	$186/233

CD ROM	
MITSUMI CD-ROM W/CABLE	$ 140
MITSUMI CD ROM W/CABLE DOUBLE SPEED	$ 165
PANASONIC CR-562(300KB/SEC) W/CABLE	$ 185
TOSHIBA 3401 INTERNAL W/CABLE	$ 332

TITLES	
MS BOOKSHELF	$ 30
CHEST MASTER 3000	CALL
SHERLOCK HOLMES	CALL
US ATLAS	CALL
BEAUTY & BEAST	CALL

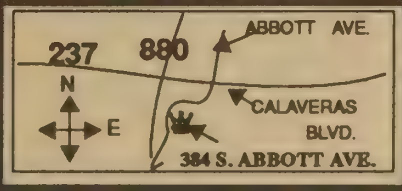
MISCELLANEOUS	
2400 Internal Modem	$ 26
96/24 FAX/MODEM Inter. WITH SOFTWARE	$ 47
144/144 FAX/MODEM Internal w/SuperFax	$ 110
144/144 FAX/MODEM External w/SuperFax	$ 140
144/144 US ROBOTICS FAX/MODEM Inter.	$ 150
144/144 US ROBOTICS FAX/MODEM Exter.	$ 164
COLORADO DJ-10 120MB Tape Back-Up	$ 90
COLORADO DJ-20 250MB Tape Back-Up	$ 145
COLORADO 120MB TRACKER ext. Tape Back-Up	$ 299
COLORADO 250MB TRACKER ext. Tape Back-Up	$ 329
3M DC2120 120MB Tape	$ 16
3 Button Serial Mouse	$ 11
MS-MOUSE	$ 39

SUNNYVALE STORE



Legend Computer
470A Lakeside Drive
Sunnyvale, CA. 94086
TEL: (408)720-0818
FAX: (408)720-0819
Business Hours:
M-F 9-7
SAT 10-6

MILPITAS STORE



Legend Computer
384 South Abbott Ave.
Milpitas CA. 95035
TEL: (408)262-6861
FAX: (408)262-6315
Business Hours:
M-F 9-6
SAT 10-6

* Prices, availability and terms are subject to change without notice

* Not responsible for typos
* Prices Above Reflect Cash Discount

CENTRAL
COMPUTER SYSTEMS, INC.

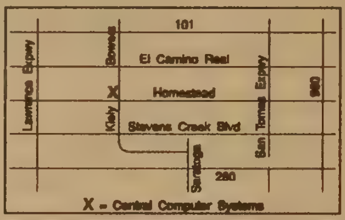
WIDE SELECTION AT LOW PRICES

Since 1986
TEL: (408) 241-0185
FAX: (408) 241-0390

820 Kiely Blvd.
(Between Homestead and Kaiser)
Santa Clara, CA 95051

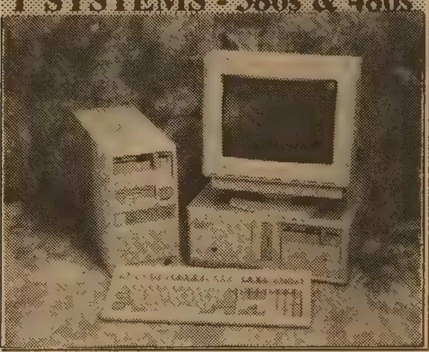
Mon - Fri: 9 AM - 7:30 P.M.
Sat - Sun: 10:30 AM - 6 P.M.

OPEN 7 DAYS



- No surcharge for Visa, Discover & MasterCard
- Govt., universities and qualified firms purchase orders accepted on approved credit
- Financing plan available OAC
- Reseller & quantity pricing available
- Prices are subject to change without notice and to stock on hand
- Not responsible for typographical errors
- Call for items not listed

I SYSTEMS - 386s & 486s



MICRONICS
COMPUTERS INC.

4 MB, TEAC 1.2 FD
IDE Controller, 2S 1P
Baby AT Case w/ 200W
Mitsumi 101 Keyboard
MS Serial Mouse
MS DOS 6.2 & Windows 3.1
with the following motherboard :

486-DX2-66 ISA 256K cache VLB	1295
486-33 ISA 256K cache VLB	1079
486-33 EISA 256K cache VLB	1295
486-DX2-66 EISA 256K cache VLB	1495

NICE
(MADE IN U.S.A)

4 MB, TEAC 1.2 FD
IDE Controller, 2S 1P
Baby AT Case w. 200W
Mitsumi 101 Keyboard
MS Serial Mouse ; MS DOS 6.2 & WIN 3.1
with the following motherboard :

486-DX2-66 EISA 256K VLB	1399
486-50 EISA 256K cache VLB	1355
486-33 ISA VLB 256K cache	999
486-DX2-66 Mini EISA 256K cache VLB	1249

Super P5Vesa Pentium

8 MB, TEAC 1.2 FD
Baby AT Case w. 200W
Mitsumi 101 Keyboard
MS Serial Mouse
MS DOS 6.2 & Windows 3.1
with the following motherboard :

586-60 AMI Bios 256K (w/o power saving)	1965
586-60 Flash Bios 256K with automatic power saving	2005
586-60 Flash Bios 256K with automatic power saving	2045

HARDWARE

1. CD ROM & SOUND CARD

CREATIVE LABS	
CD 531 w. Kit Ext	199
Discovery CD 16 Int	459
Edutainment CD 16 Int	479
Midi Kit	59
Sound Blaster Pro Multimedia Kit Ext	429
Sound Blaster Pro Deluxe	89
Sound Blaster 16	155
Sound Blaster 16 Basic	129
Sound Blaster 16 MCD / ASP	155/185
Sound Blaster 16 SCSI ASP	199
Video Blaster	315
Video Spigot for Windows	249
Voice Blaster	75
Wave Blaster	189
LOGITECH	
Soundman 16	99
MEDIA VISION	
Fusion Double CD 16	485
Midi Mate	49
- w. Passport Design Trax	89
Multimedia Upgrade Kit w. Spectrum 16	569
Pro 16 Multimedia System III Int (new)	755
Pro Audio Spectrum 16	125
Pro Audio Studio 16	145
Pro Movie Spectrum	285
Pro Movie Studio	335
MITSUMI	
FX-001D 250ms Double speed w. Kit	188
NEC	
CDR510 195ms, Triple speed Int	429
3XI 195ms, 450Kb/s, Triple speed Int	499
3XE 195ms, 450Kb/s, Triple speed Ext	559
Interface Kit for PC	79
Multimedia Upgrade Kit Int / Ext	695/745
PANASONIC	
562 320ms, 300Kb/s, Int	179
- with controller	199
PLEXTOR (TEXEL)	
DM-3028 240ms, Int	269
- with controller	314
DM-5028 240ms, Ext	379
- with controller	424
Driver Kit for Media Vision Int / Ext	19/59
TOSHIBA	
3401B 200ms, 330Kb/s, Int	325
- with controller	370
3401E 200ms, 330Kb/s, Ext	415
- with original Toshiba Case	459
Driver Kit for Media Vision Int / Ext	19/59
TRANTOR	
T130 SCSI Interface Kit (w/o cable)	45
OTHERS	
CD Caddy	4.99
Speakers :	
Active 75 Speakers	69
Active B789 120W Speakers	79
Altec ACS50 Speaker Systems	75
Koss Amplified Mini Speakers w. Equalizer	45
Koss Maximum DR Amplified Speakers	65
Labtec Speakers CS150	25
Sound Cards :	
Cardinal Digitial Sound Pro 16	125
Gravis Ultrasound	139
Turtle Beach 16 Multisound	415
Turtle Beach Multisound Tahiti	275

2. CASE

Baby AT w. 200W Power	69
Baby Tower w. 200W Power	69
Mid Tower w. 230W Power	79
Mid Tower w. 250W Power: Black / White	139/129
Full Tower w. 250W Power	129
Full Tower w. 300W Power: Black / White	199/189
Pro Line Media Baby AT 250W built-in speakers	135
Slim (2 drive bay) w. 130W Power	79
Hard Disk Drive External Casing	
- 1 half ht or SCSI for Mac, 40W, w. cables	79
- 2 half ht or 1 full ht for PC, 60W	99
- 2 half ht or 1 full ht for Mac, 60W, w. cables	125
- 3 half ht or 1 full & 1 half ht for PC, 60W	119
- 3 half ht or 1 full & 1 half ht for Mac,w.cables	145

3. CONTROLLER

ADAPTEC	
1522A Fast SCSI w. Kit, 3Mb/s	145
1542CF SCSI 10Mb/s / w. Kit	175/239
2742T SCSI EISA w. Kit	365
2842VL SCSI VLB w. Kit oem / reg.	265/299
ASW-1440 ASPI Netware Manager v3.3	65
ASW-310 Sy-Tos Plus (tape backup s/w)	99
ASW-EZ SCSI for Dos & Windows	69
AMI	
FastDisk SCSI EISA (cache up to 16MB)	389
BUSLOGIC	
BLI-KT 542B SCSI-2 w. Kit	199
BLI-KT 545S Fast SCSI-2 w. Kit, 10Mb/s	209
BLI-KT 747S Fast SCSI-2 EISA w. Kit	365
BLI-BT 445S SCSI VLB w. Kit	275
COREL	
COREL SCSI Software v1.2 / v2.0	69/89
COREL SCSI CD Power	69
DTC	
3280SAS SCSI	105
FUTURE DOMAIN (SCSI)	
TMC-1660 for AT (HD only)	119
TMC-1660 SVP	127
TMC-1680 for AT, 15Mb/s, (4F&H)	129
TMC-1680 SVP (SCSI Value Pack)	145
KOUWELL	
IDE Controller only	27
IDE w. AT I/O (2S 1P 1G)	34
IDE w. AT I/O (2S 1P 1G) w. 16550 chips	59
IDE w. AT I/O (2S 1P) VLB	49
IDE w. AT I/O (2S 1P) VLB w. 16550 chips	69
MYLEX	
DCE 376 SCSI EISA	550
PROMISE (drive cache)	
DC-200 IDE cache up to 16MB	95
DC-2040 SCSI cache up to 16MB	179
- Bios Chips & CD Driver	39
DC-420 IDE VLB w. 512k cache up to 1MB	109
DC-4030VL IDE VLB cache up to 16MB	125
ULTRASTOR (w/o cable)	
ULT14F ISA SCSI w. 32k cache	199
ULT34F SCSI-2 VLB w. 32k cache	275
WONDER SYSTEMS (USA made)	
IDE w. 4FD/ 2.88MB/ drivers tape, 1.0 Mbps FD speed	35
IDE w. 2HD/ 4FD/ 2S 1P/ drivers tape/ 5IRQ for com ports, 1.0Mbps FD speed	39
IDE w. 4FD/ 3S 2P 1G/ 2S16550 chips	69
SCSI w. CD Rom drivers	49
VL2000 IDE VLB w. AT I/O	45
VL2018 IDE VLB w. 2HD/ 4FD/ 2S 1P/ 16550 chips/ 2.88MB	69
OTHERS	
IDE w. I/O (2S 1P) for ISA	19.50
IDE w. I/O (2S 1P) for VLB	49

4. CPU & MATH CO

CPU :	
AMD	
386 DX-40	59
INTEL	
386 DX-25	69
386 DX-33	69
486 DX-33	275
486 DX-50	425
486 DX2-50	315
486 DX2-66	465
Pentium 586-60 / 586-66	835/1055
Math Co Processor :	
CYRIX	
83D86 - 33	69
83D87 - 40	69
Cx486 DLC TI-33 / TI-40	75/85
INTEL	
387 DX	85
387 SX	79
OTHERS	
Cooling Fan (heat sink)	9
TRANS ERA Make-It-486 (for 386 machines)	239

5. DIGITIZER

SUMMASKETCH	
III 12 x 12, 4 or 16 button	269
III 12 x 18, 4 or 16 button	549
WACOM	
SD-510C 6 x 9, w. SP-200 Stylus	459
SD-420E 12 x 12, Pressure Stylus + Painter	699
UD-0608R 6 x 8, w. UP-201 Stylus	349
UD-1212RP 12 x 12, w. UP-201 Stylus	529

6. DRIVE

HARD DRIVES :	
CONNER	
CP-30254H 250MB 14ms 32k IDE 1" ht	209
CFA-340A 340MB IDE	255
CFA-340S 340MB SCSI	329
CFA-540A 540MB 12ms 256k IDE 1" ht	425
FUJITSU (5 yr. warranty fr.Fujitsu)	
2624FA 520MB 12ms SCSI-1 & 2	495
M2694ESA 1.0GB 10ms SCSI-2 3.5" 1/2 ht	825
M2654S 2.1GB 12ms SCSI-2 5.25" full ht	1395
MAXTOR	
MXT-7131A 130MB 15ms IDE 3.5"	179
MXT-7213A 213MB 15ms IDE 3.5"	209
LXT-7345A 345MB 14ms IDE 3.5"	259
MXT-7345S 345MB 15ms SCSI 1" ht	345
MXT-540A 540MB 8.5ms IDE 1" ht	405
MXT-540SL 540MB 8.5ms SCSI-2 1" ht	569
MXT-1240S 1.2GB 8.5ms SCSI-2 3.5"	1195
Optical Rewritable 1GB 35ms SCSI, 4MB Ext Tahiti IIM / 1GB Cartridge Glass	2495/195
QUANTUM	
EIS-170AT 170MB IDE	179
LPS-270AT 270MB 12ms 128k IDE	219
LPS-340AT 344MB 12ms 128k IDE	259
LPS-540AT 540MB 12ms 128k IDE	435
LPS-540S 540MB 12ms 128k SCSI	499
PRO-1225S 1.2GB 9ms 1.2M cache SCSI	955
FLOPPY DRIVES :	
MICRO SOLUTIONS (external)	
1.2 / 1.44 (use printer port)	175
SYQUEST (removable)	
88MB 5.25" w. 88MB cartridge for Mac, Ext	475
105MB 5.25" w. cartridge for Mac,Ext,SCSI	475
105MB 3.5" w. cart. & SCSI cont. for PC,Int	379
105MB 3.5" w. cart., printer port for PC, Ext	429
105MB 3.5" w. cart., IDE host adapter	355
TEAC	
1.2MB 5.25"	48
1.44MB 3.5" / w. frame	38/42
2.88MB 3.5" w. frame	85
Dual - 1.2MB & 1.44MB	105
OTHERS	
Mounting Frame for 3.5" Hard / Floppy Drive	6
Removable Case for 3.5" IDE HD	39

7. I/O CARD

BOCA	
Bocaboard w. cable 4 / 8 / 16 port	79/119/239
KOUWELL	
AT I/O (2S 1P)	27
AT I/O (2S 2P)	33
AT I/O (2S 1P 1G)	27
AT I/O (2S 1P 1G) w. NS16550 chips	49
AT I/O (2S 1P 1G) w. IDE controller	34
4 Serial Ports	65
Printer Card (2P)	15
Serial Card (XT, AT)	15
QUICKPATH	
13 Port I/O w. 4-16550UARTs + Extd. IRQs (2IDE, 4F, 4S, 2P, 1G)	125
4 Serial, 16550UARTs, 8addr, 10IRQs (3,4,5,7,9,10,11,12,14,15)	99
SIIG	
(2S 1P) w. 16550 chipset	49
STB 4-COM	
4 Serial, 16 bit, w. 16554, support Com 1-8, IRQ (2,3,4,5,10,11,12,15)	109
WONDER SYSTEMS	
(4S 3P) 16 bit, 16550FIFO, 8IRQ	135

8. KEYBOARD

ANCER (black)	
101 Key	42
FOCUS	
FK2001 101 Click	42
FK9000 129 Key Programmable	59
NORTHGATE OMNI	
101NI	69
101S	55
102	69
Ultra T	95
Ultra F	95
SIIG	
Suntouch 101 Click	49
Suntouch Jr. 84 Key Mini	45
OTHERS	
BTC 84 Key Mini	37
Keycat II 101 w. trackball mouse	65
Keytronic 101	37
Maxi 101	35
Maxi Key 124	59
Mitsumi 101	30
New Maxi	29
PT505C 101	25

*(price) .... special

9. MEMORY

DRAM

1MB x 1 - 80ns	6.20
64K x 1 - 100ns	1.39
64K x 4 - 80ns	1.65
256K x 1 - 80ns	1.39
256K x 4 - 80ns	5.30

SIMM

1MB x 9 - 60ns / 70ns (3 chips)	39.50/38.50
1MB x 9 - 80ns (3 chips)	37.50
4MB x 9 - 60ns / 70ns	169/164
16MB x 9 - 70ns	779
256K x 9 - 70ns / 80ns	14/13
1MB x 36 - 60ns / 70ns	175/165
4MB x 36 - 60ns / 70ns	679/669
8MB x 36 - 70ns	1280
Simm Mac: 4MB x 8 - 70ns / 80ns	165/155

SIPP

1MB x 9 - 70ns (3 chips)	41

COMPUTER MEMORY (3rd Party)

IBM	
for PS/2 50Z/ 55SX/ 65SX/ 70 - 2MB / 4MB	95/159
for PS/2 80-111/ 311/ 121/ 321 - 4MB	225
for PS/2 80-A21/ A31/ A6 - 4MB	279
Compaq	
for Deskpro 386N/ 386SX20 - 2MB / 4MB / 8MB	109/159/319
for Deskpro 386-20e/ 20/ 25e - 1MB / 4MB	95/185
for Deskpro 486M - 2MB / 4MB / 8MB	109/159/319
for LTE 286 - 2MB / 4MB	129/195
for LTE 386S-20 - 1MB / 4MB	89/209
for SLT 286 - 1MB / 4MB	99/259
for Prolinea 386-25ZS/ 25S - 2MB / 8MB	105/375
for ProLinea 486-33/ 50/ 25S - 2MB / 4MB / 16MB	95/199/699

KINGSTON MEMORY

current price	call

LAPTOP / NOTEBOOK (3rd Party)

AST for Exec - 4MB	155
Compaq	
for Contura - 2MB / 4MB / 8MB	105/165/295
for LTE-Lite 20/ 25/ 25C - 4MB / 8MB	215/349
IBM	
for L40SX/ N33SX - 4MB / 8MB	169/319
MAC	
for Powerbook 140/ 170 - 2MB / 4MB	135/179
NEC	
for Ultralite III-SL25C/ SX20 - 4MB / 8MB	239/399
Packard Bell	
for 386SX - 2MB / 4MB	155/259
Panasonic	
for 170/ 270/ 370 - 1MB	79
Toshiba	
for T1600 - 2MB	139
for T2200SX - 4MB / 8MB	179/299
for T3100SX - 2MB / 4MB	129/187
for T3200 - 3MB	209
for T3200SX - 2MB / 4MB	129/199
for T5100 - 2MB	139
for T5200/ T8500- 2MB / 8MB	129/369

LASER PRINTER MEMORY UPGRADE

JET RAM (3rd party) :	
Epson	
for EPL6000 - 2MB / 4MB	114/175
HP	
for Desk Jet 500/500C - 256k	75
for Laser Jet II/ IID -1MB / 2MB / 4MB	99/145/235
for Laser Jet III/ IIIP/ IIID - 1MB / 2MB / 3MB / 4MB	79/125/169/215
for Laser Jet 4/ 4M - 4MB / 8MB	199/389
Panasonic	
for KX-P4410/ 4430 - 1MB / 2MB / 4MB	95/139/229
for KX-P4420/ 4450i - 1MB / 2MB / 4MB	99/145/235
for KX-P4450 - 1MB	139
for KX-P4455 - 2MB	169
for KX-P4400/ 5400 - 2MB	185
QMS	
for PS410 - 1MB / 2MB / 4MB	99/145/235
for PS815/ 825 - 2MB / 4MB	159/249
Texas Instruments	
for Micro Writer - 1MB	69
for Micro Laser Turbo XL - 1MB	69
PACIFIC DATA :	
Pacific 4 for HP IIP+/ IIIP/ III/ IIID - 1MB / 2MB / 4MB	89/135/225
1-2-4 Plus for HP II/ IID - 1MB / 2MB / 4MB	115/159/249
Pacific 4 SIMM for HP 4/ IIISI/ XL300 - 4MB / 8MB	189/375
for ProTracer - 5MB / 8MB	365/515

10. MODEM & FAX

ADTECH

144/144 Pocket Fax modem	229

BOCA

14.4 Fax modem Int / Ext	125/155
14.4 Pocket Fax modem	169

GVC

14.4 Fax modem Int / Ext	129/149
PCMCIA 9624 Fax	139
PCMCIA 144 Fax	245

HAYES

Accura 2400 Int / Ext	65/75
Accura 96 + Fax Int / Ext	199/229
Accura 144 + Fax Int / Ext	215/245
ESP Communication Single Serial	85
ESP Communication Dual Port	125
Optima 144/144 Fax modem Ext	389
Optima 288 V.Fast 144 Fax	435
PCMCIA Optima 144 Fax	325
Pocket Edition 2400 w. Smartcom EZ	129
SmartCom for Windows	47
V-Series Smartmodem 9600 v.42, MNP5 Ext	499

INTEL

Faxability Software	*(25)
Faxability Plus/OCR for Windows 2.0	*(75)85
New Fax modem 24/96 Int	55
New Fax modem 96 Int / Ext	139/159
New Fax modem 144 Int / Ext	149/169
PCMCIA 144 Fax modem	*(295)315
SatisFAXtion modem w. Faxability software	
- 400 144/144 v.42, v.32bis, MNP5 Int	269
- 400e 96/144 4k data buffer Ext	*(299)325

MEGAHERTZ

PCMCIA 96/24 Fax modem w. X-Jack	225
PCMCIA 144 Fax modem / w. X-Jack	325/345
P2144 Pocket 144/144	325

MICROCOM

Deskporte ES 28.8 Fast 14.4 Fax	255
Microporte 4232bis Fax modem	465
QX 4232bis / QX4232bis + modem	455/565

PRACTICAL PERIPHERALS

Fax Me (turn HP laser to fax receiving)	129
Mini Tower 144FX144 Ext	185
PM144FX144 Int	165
Pocket 144 Fax modem	369
PM2400 Fax modem	89

SHIVA

Net modem/E Ethernet BNC/TP	1475

SIIG

TeleCommunicator 10-in-1 Fax modem	229

US ROBOTICS

Courier 16.8 Int / w. Fax	459/499
Courier 16.8 Ext / w. Fax	495/545
Courier v32 Terbo Fax 19.2MB w. ASL	*(425)
Sportster 144/144 Fax MNP5 Int / Ext	145/165
Sportster 144/144 for Mac Ext	189

ZOLTRIX

96/24 Fax modem v.42, MNP5 Int	85

ZOOM (7 yrs. warranty fr. Zoom)

AFC Int / AFX Ext	55/69
96/24 w. WinFax Lite Int / Ext	75/79
96/96 w. WinFax Lite Int / Ext	135/155
144/144 w. WinFax Lite Int / Ext	145/165
144/144 Fax modem & Voice Int / Ext.	175/195

ZY-XEL

U1496B 16.8 voice 14.4 Fax w. Win s/w Int	299
U1496+ upgradable to 19.2Kbps Int	415
U1496E 16.8 voice 14.4 Fax, LED Ext	309
U1496E+ upgradable to 19.2Kbps Ext	419
U1496P Portable 16.8 / 14.4 Fax 2 line	399

OTHERS

ASAP TF-333 Phone & Fax Auto Switching	89
National Semi TyIN 2000 Answer/Fax	99

12. MONITOR

EMC

EM1412 14" Mono Amber, 90-260v	95
EM1417 14" 1024 x 768 VGA Mono Paper White	119
EM1428 14" 1024 x768 .28, 90-260v	259
EM1430K 14" 1024 x 768 .28, NI	279
EM1439G 14" 1024 x 768 .39	219

HITACHI

CM2095 20" 1280 x 1024 .31 w/o cable	1325
CM2187 21" 1600 x 1280 .31 w/o cable	2045
Accuvue PS20 20" 1600 x 1280 .28	1695
Accuvue PS21AM 21" 1600 x 1280 .28	2395

MAG (auto switch power)

MX15F MPRII 15" Flat 1280 x 1024 .28, NI	495
MX17FG 17" Flat 1280 x 1024 .26, NI	915
Mac Adapter	25

MITSUBISHI

HL6955SETK 20" 1280 x 1024 .31, NI	1745
TFS6705 Diamond Pro 17" 1280 x 1024 .26, NI, Tinitron, MacII, 100-240V	1045
BNC Cable	39

NANAO (call for rebate info.)

F340iW 15" Flat Screen 1024 x 768 .28	545
F550iW 17" 1280 x 1024 .28, NI, Mac	1095
F560iW 17" 1280 x 1024 .26, NI	1325
F550i 17" 1280 x 1024 .28, NI, Mac	955
T560i 17" 1280 x 1024 .25, NI, MacII	1635
T660i 20" 1280 x 1024 .31, NI, Trin., MacII.	2395
F760iW 21" 1280 x 1024 .31, NI	2075
F780iW 21" 1600 x 1280 .26, NI	3195

NEC (120V)

3FGe 15" 1024 x 768 .28, Mac	589
3V 15" 1024 x 768 / w. rebate	529/479
4FGe 15" Flat 1024 x 768 .28, NI, Mac	689
5FGe 17" 1024x768 .28, NI (no accu color)	1125
5FGp 17" 1280 x 1024	1295
6FG 21" Flat 1280 x 1024 .28, Mac	2295
6FGp 21" 1280 x 1024	2395
NEC Monitor Lens : Anti-reflection, Anti-satic for 4FG / 5FG / 6FG	*(59)/*(99)/185
FG/MacII Cable Adapter Kit	19.50

NOKIA

449E 15" 1280 x 1024 .28 NI	515
447B 17" 1280 x 1024 .25	965
445X 21" 1600 x 1280 .26	2699

PROTON

PM1561A 15" 1280 x 1024 w. speakers built-in	415

SAMSUNG

CSK557L 15" 1024 x 768 .28, NI	445

SEIKO (90-132V)

CM2050 20" 1024 x 768 .31, NI, Mac	1395

SIIG

9" VGA Mono Paper White 640 x 480	135

SONY

1430S 14" 1024 x 768 .25, NI, 120V	529
17SE 17" 1600 x 1280 .25	1175
1730 17" 1024 x 768 .25, NI	995
2038 20" 1280 x 1024 .30, NI	2195

STANDARD TECHNOLOGIES

400-M 14" VGA Paper White	119
428-VESA 14" 1280 x 1024 .28, NI	279

VIEWSONIC

4e 14" 1024 x 768 .28, 110/220V	279
5+ 14" 1024 x 768 .25, NI, MacII	475
6e 14" 1024 x 768 .28, NI	299
14e 14" 1024 x 768 .28, NI, MPRII	349
15 15" 1280 x 1024 .28, NI, MacII	449
17 17" 1600 x 1280 .27, NI, MacII	975
17G 17" 1280 x 1024 .28, NI	875
20 20" 1600 x 1280 .28, NI, MacII	1575
21 21" 1600 x 1280 .26, NI, MacII	1825
Mac Cable Adapter	35

OTHERS

Monitor Power Saver	39
Telepower w. Monitor power saver	59

13. MOTHERBOARD

AIR (w/o cpu)

486-33 / DX2-66 256k, 3VLB slots	215
486-33 / DX2-66 256k EISA, 3VLB slots	425
486SH - 33 / DX2-66 256k, Green PC	175
Pentium 256k ISA VLB, IDE I/O built-in	535
PCI 586 256k EISA, Fast-wide SCSI built-in.	735

AMI

Super Voyager II 486-33 256k VLB, 7 slots	645
Super Voyager II 486-DX2-66 VLB, 7 slots	865
Enterprise III 486-33 256k EISA VLB	875
Enterprise III 486-DX2-66 EISA VLB	1095
Enterprise IV 486-33 256k EISA VLB	769
Enterprise IV 486-DX2-66 256k EISA VLB	999

ALARIS (IBM)

486SLC2-66 64k VLB w. CPU & Math Proc..	319

IBM

486SLC-33 / 66 16k internal cache ISA v.2 w. CPU & Math Processor	265

LYNX (USA made)

486-33 / 50 / DX2-66 256k VLB	149

MICRONICS

386SX-20 Phoenix BIOS, 32MB max	175
386-33 64k Gemini, 32MB max	255
486-33 256k VLB	615
486-DX2-50 256k VLB	695
486-DX2-66 256k VLB	825
JX30 486-DX2-66 256k VLB w. Zif socket	865
486-33 256k EISA VLB	845
486-DX2-66 256k EISA E2	995
486-DX2-66 256k EISA VLB	1045
PCI 586-60 256k, ISA 3PCI slots	1465

NICE (w/o cpu)

486-33 / DX2-66 256k VLB	215
486-50 / DX2-66 256k Mini EISA VLB	265
486-50 / DX2-66 256k EISA VLB	425

SUPER P5VESA

Pentium VL 586-60 256k / w. Flash Bios	495/535

QUICKPATH

486-50 64k 15ns ISA, w/o cpu	175

OTHERS

386-40 128k w. CPU / w/o cpu	159/109
486-33 128k ISA w/o cpu	125
486-33 256k ISA w/o cpu	139

14. MOUSE & JOYSTICK

AGILER

ATB-610 Serial Trackball	24.50
Master Plus 400	19.50

ANCER (black)

3-button	22

APPOINT (portable)

MousePen Pro	49
Thumbelina	49

KENSINGTON

Bus 4.0	119
Expert Serial & Trackball 4.0	99

LOGITECH

Cordless II	75
Cyberman 3D Controller	69
Dexxa Serial	19.50
First Serial	31
Fotoman Plus Camera for PC & PS/2	519
Mouseman Bus	64
Mouseman Serial oem / reg.	41/50
Trackman Portable	69
Trackman II	75

MICROSOFT

Ball Point Portable	119
Bus 2.0 (oem) / w. Bus Card	46/69
Bus 2.0 w. Expansion Card	89
Mouse 2.0 + Windows 3.1	149
Original Serial Mouse	29
Serial 2.0 (oem)	45
Serial 2.0 w. PS/2 Port	*(65)
Serial 2.0 w. 9 to 25 pin Adapter	*(59)

MOUSE SYSTEMS

Little Mouse PC Serial (2-button optical)	29
New Point (trackball for laptop & PC)	39
Omni (2-button, MS compatible)	25
PC Mouse (3-button optical)	*(45)
PC Trackball II	49
Serial Bus Card (9IRQs)	29
The New Mouse 400dpi (3-button)	39

JOYSTICK :

THRUSTMASTER

ACM Gamecard	29
Flight Control System / Pro	68/114
Flight Stand Holder	19
Rudder Control	115
Weapon Control MKII	*(99)

OTHERS

Adapter Kit	16.50
Gravis Game Pad	23
Warrior 5, Quick Shot	14.50

15. NETWORK

3COM

3C503 8 bit coax / TP	179/*(159)
3C503 Etherlink II 16 bit coax / TP	169/179
3C507 16 bit Ethernet coax / TP	289/299
3C509 Etherlink III coax / 5 pack	125/555
3C509 Etherlink III TP / 5 pack	122/545
3C509 Combo / 5 pack	145/595
3C529 Etherlink III for MCA / TP	245/249
3C551 Link Watch SNMP/NLM software	*(199)
3C579 Etherlink III EISA coax / TP	235/239
3C589 PCMCIA TP / Combo	255/299
3C16270 Link Builder TP, 12 Port HUB	395
TokenLink III 16/4 ISA / MCA / EISA	435/495/645

ADDTRON (Novell compatible)

AE-200JL Jumperless BNC & TP	65
AE-200LB 8 or 16 bit BNC only	55
AE-200LC 8 or 16 bit BNC & TP	59
AE-200LT 8 or 16 bit TP only	55
Arcnet: Arc120TP 8 bit Combo	59
Arcnet: Arc220TP 16 bit Combo	69
Arcnet: 8 Port Active HUB coax / TP	135/145
ET-200STS NE2000 coax compatitble	65
Boot PROM 16 bit	15
HUB: UTP8 (8TP + 1BNC)	199
HUB: UTP16 (16TP + 1BNC + 1AUI)	435
Pocket Adapter: BNC / TP	125/129
Transceivers: ET10TB (TP<-->AUI)	45
Transceivers: ET10CB (BNC<--> AUI)	45

ALLIED TELESIS (CentreCOM)

AT-1500T / AT1700T (TP)	79/79
AT-1500BT / AT-1700BT (BNC + TP)	99/99
Transceivers: MX10 / 210T	45/45

ARTISOFT (Lantastic)

AE-2 Ethernet Adapter	195

---

*(price) .... special

AE-2 Ethernet Starter Kit 5.0 Dos / Win	449/509
AE-3 Ethernet Adapter	225
AE-2/T 16 bit 10BaseT Adapter	199
AI Software 5 0 Win / 6 pk / 12pk	85/450/795
2Mbps Starte Kit Dos / Win	355/415
2Mbps 1-user Kit Dos / for MCA	139/215
Central Station II	399
Ethernet s/w Kit 5.0 w. cable Dos / Win	79/139
Lantastic Z 5.0 (2 stations)	*(69)89
Lantastic for Netware v4.0 / v5.0	99/275
Lantastic for TCP/IP single / 5-user	185/760
NR2000A Combo	225
NR2000C BNC only	172
NR2000C Starter Kit Win	*(429)
NR2000T RJ45 only single / 6 pk	175/979
NR2000 MCA	255
NR-SI 2000C / 2000T	*(85)/*(95)
NR-SI 2000C AI Starter Kit Dos / Win	*(299)
NR-SI 2000A Combo	129
NR-SI 2000M for MCA	165
Peer-HUB 10BaseT Concentrator	270
Remote Boot ROM for AE-2, AE-3, NR2000	45
Simply Lantastic Starter Kit	215
Simply Lantastic Add On Kit	109
Simply Lantastic Software Kit	59
Sounding Board Adapter Kit	69
T-Runner 6 Port HUB	320
T-Runner 12 Port HUB	520

ASANTE

AH1012 Intelligent HUB 12 Port	875
10T HUB 8 Port / 12 Port	255/495
FriendlyNet with AUI / BNC / TP	69

CASTELLE

JetPress (network print server) for HP II, IID, III, IIID, coax / TP	429
LANPress (print server connects up to 4 printers)	
- Ethernet Thick/Thin coax (1P 3S)	475
- Ethernet Thick/Thin coax (2P 2S)	625
- Ethernet 10BaseT (1P 3S)	475
- Ethernet 10BaseT (2S 2P)	635

CC:MAIL

cc:Mail Dos Platform 4.0	199
cc:Mail Win Platform 2.0	345
cc:Mail 10-user pk / 25-user pk	249/579
cc:Mail Fax 1.2	1350
cc:Mail Gateway 3.21	859
cc:Mail Remote	199
cc:Mail Router 4.0	875

DCA

Crosstalk 2.0	119
Commuicator	58
IRMA Workstation Dos / Win	225/359
IRMA 3270 for MacII/ LC/ SE	695

D-LINK

DE-205 TP : 4 Port HUB + 16 bit Card	295
DE-220 TP 8 or 16 bit	*(69)
DE-600 Pocket Adapter coax / TP	215/215
DE-650 PCMCIA coax / TP	195/199

FARALLON

PN381 PhoneNet w. Timbuktu for Win	259

GATEWAY COMMUNICATION

G/Ethernet 16 coax / 32 bit	59/*(199)

IBM

Ether 16 coax / TP / Combo	89/85/95
PCMCIA for Token Ring 16/4	479
PCMCIA 10B2 / 10BT	215/195

INTEL

EtherExpress Flash LAN Combo / 5 pk	135/625
EtherExpress 16 coax / 5 pk	115/485
EtherExpress 16 TP / 5 pk	112/495
EtherExpress 16 TP Flash / 5 pk	125/565
EtherExpress 16 MCA / 16 MCA TP	175/185
EtherExpress 32 EISA	439
Flash 32 EISA	249
HUB: 12 Port EtherExpress ISA / EISA	565/645
LAN Protect 1.5 (virus protection)	685
LAN Sight Support 4.0	345
LAN Spool s/w 386 NLM v3.5A	425
Netport II Thin & Thick / 10BT	395/399
Netport Express XL	465
NetSatisfaxtion v2.5 for Novell	955
TokenExpress 16/4 ISA/ EISA/ MCA	435/655/475

LANPRO

2000JC 16 bit coax (BNC only)	49
2000JT 16 bit TP with cable	49
2000JA 16 bit Combo	55
HUB ER5390 : 8 Port (8TP + 1BNC)	185
HUB ER5396 : 16 Port (16TP + 2BNC)	355
Netware Lite Starter Kit	195
Netware Lite Add On Kit	99

NOVELL

Dos 7 (includes Personal Netware)	79
EPROM for NE2000	35
EP2000 coax / TP	99/89
Microdyne NE2000 coax / 5 pk	99/465
NE2000 Plus Ethernet coax / 5 pk	119/525
NE2000T Plus Ethernet TP / 5 pk	105/475
NE2000 Netware Lite Starter Kit / Win	355/375
NE2000 Plus Combo / 5 pk	135/550
NE3200 Eagle EISA w. TPA	*(475)545
NE3210 EISA 32 bit Combo (ws)	215
Netware Lite 1.1 + DR Dos 6.0	55
Netware Lite w. Win Utilities	69
Netware 3.12	
- 5 / 10 / 25-user	615/1395/2085
- 50 / 100 / 250-user	2695/3995/6995
Netware 4.01	
- 5 / 10 / 25-user	825/1795/2625
- 50 / 100 / 250-user	3595/5495/9695
NPE 400 Print Server	350
NTR 2000 Token Ring	435
Personal Netware	79

SMC (Western Digital)

8003 Plus Elite 8 bit coax	99
8013 Plus Elite 16 coax / 6 pk	125/625
8013 Plus Elite 16 TP / 6 pk	127/629
8013 Plus Elite 16 Combo / 6 pk	149/775
8013 Plus/A for MCA / TP	195/199
8033 Elite 32 coax / TP	595/599
8 Port Concentrator (8TP + 1AUI)	349
12 Port Concentrator (12TP+2AUI+1BNC)	595
Elite Ultra 16 coax / TP / Combo	110/112/129
Netware Boot ROM for Ethernet	34
Token Ring 16/4 ISA / MCA	279
Token Elite Passive MAU 8 / MAU 16	415/599

SYNOTICS

Network products	call

XIRCOM

PCMCIA CE-10B2 BNC / CE-10BT	275/279
PCMCAI CE-10BC Combo	315
PE3-10B2 Pocket Adapter coax	285
PE3-10BT Pocket Adapter TP	289
PE3-10BC Pocket Adapter Combo	325

OTHERS

Mailman 2.0 (10-user for Novell netware)	*(99)

CABLES & ACCESSORIES

10BaseT, Level 3 plenum 1000'	165
Belden 8259, RG58 1000'	165
RG58 500' / 1000'	65/109
Twisted Pair 4-pair, PVC, Level 3	
- 1000' / 500' / 200'	89/55/35

16. NOTEBOOK

MITAC

Mono 486SX-25, 4MB, 130MB HD	1295
Passive Color 486SX-33, 4MB, 130 HD	1795

17. POWER SUPPLY

AMERICAN POWER CONVERISON

APC-400 Smart-UPS (286, 386 WS)	289
APC-600 Smart-UPS (386, 486 FS)	359
APC-900 Smart-UPS (386, 486, FS & WS)	569
APC-1250 Smart-UPS (multiple FS & WS)	699
APC-400 Back-UPS (300W)	179
APC-450 Back-UPS (325W)	215
APC-600 Back-UPS (425W)	285
APC-900 Back-UPS (650W)	375
APC PowerChute Plus :	
- for Novell	*(59)
- for OS/2, Lan Server, 3 Com	75
- for UNIX / XENIX	99
Power Doctor (DOS) I/F Kit for Smart-UPS	79
Surge Arrest Unit	call

GENERAL

250W for Baby AT / Baby or Mid Tower	45/45
250W for AT / Full Tower	47/49
300W for Full Tower	69
550W for UPS	279
1200W for UPS	659

PC POWER COOLING

Standard 220 for Desktop / Full Tower	85/85
Silencer 270	
- for Slim (baby or mid tower)	149
- for AT Desktop / Full Tower	165/165
Turbo Cool 300	
- for Slim (baby or mid tower)	149
- for Desktop / Full Tower	175/175
Turbo Cool 450	
- for Desktop / Full Tower	325/325

TRIPP LITE

Isobar 4	39.95
Isobar 6	47.95
Isobar Console CC16 Plus w. RJ11	75
Isotel 4 w. RJ11	49.95
Isotel Ultra 6 w. RJ11	55.95
UPS Monitoring Board for Netware	59

18. PRINTER

BROTHER

HJ-400 Desktop Ink Jet for PC or Mac	285

CANON

BJ-200 Ink Jet	319

CITIZEN

GSX 145 24 pin, 132 column	355
GSX 230 Fonts & Quiet	229
GSX 240 Scalable Fonts & Quiet	285
PN48 1ppm, 2lb, battery, case, for notebook	299
Accessories :	
- Color Option for GSX 130	45
- Color Option for GSX 145	65

HP (Hewlett Packard w. toner)

Desk Jet 500 / 500C / 550C	295/395/499
Desk Jet 1200C / Postcript	1475/2075
Jet Direct for 10BT (J2371A) / Combo	429/465
Laser Jet 4 / 4M	*(1395)/1935
Laser Jet 4L / 4LM	639/999
Laser Jet 4P / 4PM	975/1375
Laser Jet 4Si / 4SiMX	2995/4295
Paint Jet / Paint Jet XL300	695/2295
Accessories :	
- Envelope Power Feeder 75 Sheet (LJ4)	279
- Legal, Letter or A4 250 Sheet Tray (LJ4)	99
- Legal, Letter or A4 500 Sheet Tray (LJ4)	109
- Lower Cassette w. Letter Tray (IIP, IIIP)	149
- Optional 500 Sheet Legal Letter A4 (LJ4)	279
- Postcript (LJ4)	359
- Toner for LJ II, III	79
- Toner for LJ IIP, IIP+, IIIP	66
- Toner for LJ4 / LJ4L or 4P / LJ4Si	109/69/135

LASER MASTER

Win Printer 800 Postcript	1075
Win Printer XL600 11x17, 600x660ppi	2350
WinJet 1200 Postcript for LJ4	*(650)
Utility XL1200 / XLT / XLO	4795/6495/7995

MICROTEK

TrueLaser MTP-306 6ppm, 2MB, 35 fonts	995

NEC

Super Script 610 Laser 6ppm, 300x300ppi	615

OKIDATA

Printers and Accessories	call

PACIFIC DATA

ProTracer II Ink Jet (CAD Plotter) A4 to A2 size, 360dpi, I960RISC, 512k, 45dBA	1329
ProTracer II-GL2 w. HP-GL2 & 2MB	1759
Accessories :	
- HP-GL Emulation Card	375
- Ink Cartridges	19.50
- Postcript Emulation Card	375
- Sheet Feeder I / II	135/115

PANASONIC

1150 9 pin, 55dBA	139
1624	379
2023 24 pin, Quiet	199
2123 24 pin, 43.5dBA, Color capability	239
2124 24 pin, 43.5dBA, Color capability	319
2624 24 pin, 46.5dBA, Quiet	399
4410 Laser, 512k, 5ppm	549
- Corona KX-PCR3	49
- Developer KX-PDP4 / KX-PDP5	110/125
- Drum KX-PDM4 / KX-PDM5	99/109
- Extra Cassette KX-PKC2	45
- Fonts Card KX-P47x	95
- Fuser Unit KX-PFS5	105
- Optional Second Cassette KX-P495	135
- Toner KX-P453	42
4420 Accessories	
- Developer KX-PDP2	95
- Drum KX-PDM2	99
- Envelope Tray KX-P431	59
- Legal Tray KX-P425	45
- Ozone filter KX-PFT2	29
- Toner KX-P451	42
4430 Laser, 1MB, 5ppm	665
- Accessories same as 4410	
4400 Led Page Printer, 4ppm	549
- Apple Talk Interface KX-P412	179
- Drum Unit KX-PDM6	95
- Postcript Upgrade Board KX-PSU3	399
- Postcript Fax Option KX-PFX1	259
- RS232 Serial Interface KX-P411	95
- Toner Kit KX-P455	17.50
4450 & 4450i & 4455 Accessories	
- Developer KX-PDP1	95
- Drum KX-PDM1	145
- Envelope Tray KX-P430	59
- Legal Tray KX-P420	45
- Ozone Filter KX-PFT1	32
- Toner KX-P450	42
4455 Postcript, 11ppm	1695
5400 Led Postcript Page Printer, 4ppm	799
- Accessories same as 4400	
Others Accessories :	
- 32k Buffer Dot Matrix KX-P43	65
- Auto Sheet Feeder for 1124 KX-P36	120
- Color Upgrade Kit KX-PCK11	55
- Serial Interface Card PS-13	75
- Single Bin cut Sheet Feeder KX-PT10	95

QMS (Adobe Postcript)

PS410 2MB, 45 Fonts, 4ppm	925
- Envelope / Legal / Letter Tray	69/69/69
- Lower Cassette w. Letter Tray	149
- Toner	95

SEIKO

Smart Label Printer Pro / Plus	245/159
Box of Label (2 rolls)	7.95

TEXAS INSTRUMENTS

Printers	call

LASER PRINTER ACCESSORIES

COMPUTER PERIPHERAL

Jet Page for HP II	*(125)

IQ ENGINEERING

Desk Jet Plus Professional for DJ 500	99
Super Cartridge 2 & 2LS for HP II, III	*(199)
Super Cartridge 3 Pro+ for HPIII,IIID,IIIP,IIISI	199
True Type Master Library	19

PACIFIC DATA

25 in One! for HP DJ500	99
25 in One! III for HP II, IID, IIP, IIP+, III, Microtek	245
Complete Font Library for HP III, IIID, IIIP	255
Font Bank for all HP Lasers (stores soft fonts) 0.75MB / 1.5MB	205/269
Headlines Cartridge for HP II, IID, IIP	185
Pacific Connect XI :	
For HP II, IID, III, IIID -	
- 5 Port 256k / 1MB (4S 1P)	309/379
- 10 Port 256k / 1MB (10S)	449/519
For HP 4, IIISi, Paint Jet XL300 -	
- 7 Port 1MB / 4MB (6S 1P)	449/649
- 10 Port 1MB / 4MB (10S)	519/179
Pacific DirectNet for Novell	369
Pacific DircetNet for Novell & UNIX	499
Pacific Page 2MB, Postcript for HP II	389
Pacific Page II/XL 4MB, Postcript for HP II	719
Pacific 4 Postcript for HP 4	269
Pacific Page PE for HP IID,IIP,IIP+,III,IIID,IIIP	279
Pacific Page PE 2MB	405
Pacific Talk	179
Postcript 4MB & Accelerator Board	719
Plotter in a Cartridge for HP II	225
Plotter in a Cartridge PE for HP IID, IIP, IIP+, III, IIID, IIIP	225

PELICAN

Ribbons	call

19. SCANNER

ARTEC (hand)

ViewScan 256 w. OCR	*(89)

HP (flatbed color)

ScanJet IICX Color w. Kit	985
- Auto Document Feeder	475
ScanJet IIP w. Kit	725

LOGITECH (hand)

Scanman Easy Touch w. OCR	199
Scanman 256	169
- w. Omni Page OCR	189
Scanman Color	429
- w. Omni Page OCR	475

MICROTEK (flatbed color)

Scan Maker II w. Photoshop L.E.	675
Scan Maker IIXE w. Photoshop	999

MOUSE SYSTEM (hand)

Page Brush Color	*(199)275

MUSTEK (hand)

Color 256, 400 dpi	299

TAMARACK (flatbed color)

ArtiScan 24 bit, Color / 256 Gray Levels	
- w. Publisher L.E. 600 / 800 / 1200 dpi	675/775/1045
- w. Pub.L.E. & OCR 600 / 800 / 1200 dpi	725/825/1095
- w. Photostyler 600 / 800 / 1200 dpi	815/915/1185
- w. Phtoshop 2.5 600 / 800 / 1200 dpi	815/915/1185
Slide Scan Kit (transparency, slide, X-ray) 600 / 800 / 1200 dpi	525/525/595

Z-NIX (hand)

ZScan 400dpi + iPhoto Gray / w. OCR	*(59)/69
- Bundle w. Pagemaker 5.0	525

20. TAPE BACKUP

COLORADO

Backup for Win	39
DJ-10 120MB QIC-40 w. cable / w. Win	99/129
DJ-20 250MB QIC-80 oem / reg.	145/155
- 3M DC2120 Tape Cartridge	14.50
- AB-11 External Tape Port	37
- Cable (2FD & tape backup)	6
- FC-10 Controller	79
- KE-09 External Kit w/o Controller	69
- TC-15 Controller w. Data Compression	169
- Unix / Xenix Driver	99
PowerTape PT-25 2GB 300Kb/s Int	965
PowerTape PTE-25 Ext	1095
PowerTape PT-50 4GB 300Kb/s Int	1525
PowerTape PTE-50 Ext	1655
Tracker 120MB (printer port)	285
Trakker 250MB (printer port)	325

---

*(price) .... special

CONNER

Archive Viper 2150S Int	335
Tape Stor 250MB w. 3M Cartridge	145

EXABYTE

EXB-2501 SCSI-2 750MB - 1.5GB Int/Ext	525/685
EXB-4200 4mm Dat. 2GB Int / Ext	855/995
EXB-8205 8mm Dat. 2.5 - 5GB Int/Ext	1395/1645
EXB-8505 8mm Dat. 5-10GB Int/Ext	2095/2350

IOMEGA

250MB Insider 3.5" with 5.25" frame	185

SUMMIT

SE250 250MB w. Backup s/w & free cart. offer.	159

21. VGA CARD

(All cards 1024 x 768 except stated)

AMI

FastView EISA VGA Graphics 1MB	175
FastView P9000 VLB 2MB	395

ATI

Graphics Ultra Plus 2 DRAM w. mouse reg.	269
Graphics Ultra Pro 2 ISA w. mouse reg.	365
Graphics Ultra Pro 2 VRAM VLB oem	*(299)
Graphics Ultra Pro 2 VRAM VLB reg.	365
Graphics Ultra Pro 2 EISA oem / reg.	395/425
Graphics Ultra Pro 2 PCI	335
VGA 1024 VLB 1MB oem	139
Wonder XL 24 Hi-color w. mouse 1MB	135

DIAMOND

Stealth 24 16m. color, DRAM 1MB	165
Stealth PCI DRAM 2MB	259
Stealth Pro VRAM 1MB ISA / VLB	245/255
Stealth Pro VRAM 2MB ISA / VLB	339/349
Viper P9000 VLB VRAM 2MB oem / reg.	365/395
Viper PCI VRAM 2MB	429

MATROX

IMP/3AH 1600 x 1200, ISA 3MB	735
IMP/3VH 1600 x 1200, VLB 3MB	785
VLB/2 1280 x 1024, VLB 2MB	459
VLB/2 Plus 1600 x 1200, VLB 2MB	535
PCI/2 Plus 1600 x 1200, 2MB	535
PRO/4V 1280 x 1024, VLB 4MB	1099
Upgrade/2 2MB Memory	235

MEDIA VISION

ProGraphics 1024	279
ProGraphics 1280	685

METHEUS

Premier 928 VRAM 4MB	765
Premier 928VL VLB VRAM 2MB	599
- 1MB VRAM Memory upgrade	129

NUMBER NINE

T134020, 1280 x 1024, 90Hz, S3-928 chip	
- GXe Level 10 VRAM 1MB ISA	259
- GXe Level 11 VRAM 2MB ISA / VLB	355/359
- GXe Level 12 VRAM 3MB ISA / VLB	435/439
- GXe Level 14 VRAM 4MB ISA / VLB	655/659
GXI-TC L29 1280 x 1024, 256k color, 72Hz VRAM 4MB, DRAM 1MB	1395

ORCHID

Celcius VLB 1MB	215
Fahrenheit 1280+ 24 bit, VLB 1MB	155
Fahrenheit 1280+ DRAM 1MB	149

SPIDER

Windows Accelerator VLB 1MB Plus.	119

OTHERS

CGA / MGP Card (monographic w. printer port)	29
ET4000 Tseng Lab 1MB ISA / VLB	79/109
Intel Smart Video Recorder	525
Oak087 Super VGA 512k	52
Oak087 Super VGA 1MB Accelerator	65
Paradise Window Accel 31X 1MB	159
Video Plus (video image grabber)	215
V-Mate Pro (flicker free ext. video encorder)	199
WinVision (video capture)	165

SOFTWARE

1. CD SOFTWARE

call for wholesale prices

7th Guest DOS oem / reg.	35/45
50 Windows Game	11
A Hard Day's Night	29
A Line in the Sand	34
Adventures (1000 tours) MPC oem / reg.	19/32
Adventure in Heaven	14
Aircraft Encyclopedia	25
All American Sports	27
Amazing Universe MAC, PC	49
American Alive	95
American Journal 1896-1945	39
American in Space (2 CD)	52
Anabel's Dream - Egypt	45
Animation Festival	24
Atlas Pack (world + US) :	
- DOS / MPC / MAC	17/19/22
Audubon's Birds	16
Audubon's Mammal	16
Back Road Racer (motorcar included)	45
Battle Chess DOS	15
Battle Chess Mult. Enhanced oem / reg	22/49
Beauty and the Beast MPC	13
Beyond the Walls of Stars	20
Bible Library	22
• *Broderbund Series :*	
- Arthur's Teacher Trouble oem / reg.	20/*(29)
- Just Grandma and Me WIN	37
- The New Kid on the Block	37
- Tortoise and the Hare	37
- Where in the World is Carmen Sandiego (oem)	20
- Where in the US is Carmen Sandiego	54
Business Background MPC, MAC	19
Business Master (shareware)	15
Business Phonebook 93-94	17
C User Group Library	22
California Travel MPC	37
CD CADD 3.7	24
CD Deluxe Pack (4 titles) MPC	35
CD Fun House (350 games) DOS, WIN, MAC	19
CD Game Pack II (10 games) / for MAC	18/22
CD Source Book of American History	75
CD Story Time	19
Challenge Pack (game pk III)	22
Chess Master 3000 MPC	17
• Chesnut Series	9.95 each
- Bible and Religion	
- Clip Art Warehouse	
- Complete Home and Office Legal Guide	
- Computer Reference Library	
- Death Star Arcade Battles	
- Dictionary and Language	
- Encyclopedia of Sound	
- Gardening	
- Hugo House of Horrors	
- Our Solar System	
- Shareware Overload	
- Sound Sensation	
- Technotools	
- The Complete Book Shop	
- World Traveler	
CICA MS Windows	12.50
Color It MAC	22
Colossal Cookbook	12.50
Complete House MPC	19
Composer Quest MPC	24
Compton's Family Choice	15
Compton's Interactive Encyc. oem / reg	65/245
Compton's Multimedia Encyc. WIN (oem)	35
Companion for OS/2	15
Cookbook Heaven	14
Corel Artshow 93' (book + CD) MPC	24
Corel Artshow 94'	34.50
Crossword Cracker	18
Dangerous Hot Stuff I (collection of graphics)	19
Dangerous Hot Stuff II	22
Day of the Tentacle - Maniac Mansion	45
Desert Storm MPC, MAC	18
Desktop Publisher's Dream Disk	29
Dictionary of the Living World MPC	23
Dinosaur - The Multimedia Encyclopedia	22
Dinosaur and Space Adventure	25
• *Discis Series* DOS, WIN, MAC	19.95each
- AESOP's Fables	
- Cinderella	
- Heather Hit Her First Homerun	
- Long Hot Day at the Ranch	
- Moving Gives Me Stomach Ache	
- Mud Paddle	
- Paper Bag Princess	
- Tale of Benjamin Bunny	
- Tale of Peter Rabbit	
- The Night Before Christmas	
- The Scary Poems for Rotten Kids	
- Thomas Swimsuit	
Distant Sun 2.0 WIN	78
Dr. Fun Pack	7.95
Dr. Games	7.95
Dr. Music (research)	7.95
Dr. Shareware	7.95
Dr. Windows	7.95
Dune	27
ECO-Quest: The Search for Cetus	22
Education Companion	14.50
Education Master (shareware)	14.50
Electronic Home Library	19
Electronic Art - Renaissance I	24
Electronic Art - Renaissance II	24
Electronic Art - Western Arts	24
Encyclopedia of Clipart (power pack)	25
Essential Home and Business Collection	20
F-15 Strike Eagle II + F17A	29
Family Doctor MPC, MAC	18
Family Education Collection	18
Famous Faces MPC	45
Famous Places MPC	45
Fantazia Fonts and Sound	24
Fitness Partner MPC	45
Flesh Art (clip art)	27
Font Master I / II	9.95/12.50
Font Platinum	11
Fractal Frenzy	18
Game Bonaza + Antivirus	14.50
Game Expert MPC	9.95
Game Platinum WIN	17
Gameware Collection	14.50
Garbo DOS, MAC	13
Giga Games (3000 files)	15
Global Explorer (DeLORME) MPC	99
Golden Immortals (games)	19
Goldilocks and Three Bears (oem)	19
Grammy Awards	32
Great Cities I & II	19
Great Literature (1896 books) DOS, MAC	42
Great Poetry Classic	45
Great Wonders of the World	19
Greatest Book Collection WIN	34
Grolier's Encyclopedia 5.01 DOS	29
Grolier's Encyclopedia 6.0 MPC	39
Guiness Disc of Records 93 MPC / MAC	19/22
History of the World	47
Hobbes OS/2	15
Hong Kong at its Best	24
Hound of Baskervilles (sherlock holmes)	22
House of Games	12.50
Humans	29
Info MAC	24
Impact! (by 3G graphics) WIN	65
Impressionism (coales art)	34
Indiana Jones - The Fate of Atlantis	42
Interactive Storytime v.1 / 2 / 3 MAC,PC	19/19/19
Jazz of Multimedia History MPC	49
Jets and Props (media clips) MAC, PC	19
Jones in the Fast Lane	15
Jurassic and Other Dinosaurs	12.50
King's Quest V	15
King's Quest VI oem / Upgrade	29/29
Kodak Photo CD Access WIN (oem)	15
Languages of the World WIN	22
Laura Bow 2 - The Dagger of Amonra	24
Laser Printer Companion	19
Lazer Tax (480 tax forms)	14
Learn to Speak Spanish/ Eng./Fren. PC, MAC	59
Learning Adventure	12.50
Learning Heaven	14
Lenny's Music Toons	32
Libris Brittania	28
LOOM	17
Lost in Time	24
Lovely Lady II	29
MacMillan college Handbook 93'	29
MacMillan Dictionary for Children (K-12 grade)	19
Macromedia ACTION! WIN	26
Mad Dog McCree	35
Mammals (national geographic)	21
Mantis Experimental Flighter	13
Mario is Missing	19
Master Piece Library	24
Mavis Beacon Teaches Typing MPC	17
Mayo Clinic: Health Book MPC / MAC	18/22
Mayo Clinic: The Total Heart	38
Media Music Shop	17
Megabi Monster	14
Microprose Gamepack of 4 Dos, MAC	19
• *Microsoft Series :*	
- Art Gallery Multimedia	55
- Cinemania 94 MPC	55
- Dinosaur	55
- Encarta 94 MPC	*(89)
- Golf	48
- Multimedia Beethoven 9th Symphony	55
- Multimedia Bookshelf 93 oem / reg	39/125
- Multimedia Mozart	55
- Multimedia Stravinsky	55
- Musical Instruments MPC	55
- Schubert MPC	55
Mixed Up Mother Goose	15
Monarch Notes (>2000 study guides)	45
Monkey Island	17
Monster Disk II (2 CD, shareware)	39
Monster Media 93	24
Mozart Music MPC	19
Multimedia Animals Encyclopedia MPC	39
Multimedia Computer Tutor	13
Multimedia Encyclopedia 4.0 MAC	45
Multimedia Music Training	17
National Parks	18
Nature Graphics	15
Nautilus BackPac WIN I / II / III	49/49/49
Nautilus Mini Subscription	24
New View for Space	17
New York at Its Best	17
Newsweek Interactive	19
Night Owl v.10	29
Ocean Below MPC	19
Oxford English Reference Library OS/2, DOS	95
PC Karaoke 4.0 (w/o microphone)	19
PC Medic (diagnostic)	19
PC SIG Library vol.12	19
Peter and the Wolf MPC	13
Phone Disk USA business / residence	49/52
Picture Atlas of the World	69
Pinacotheca MPC	15
Pintura Classical Painting	15
Pixel Garden	25
Plan-It Paradise for Win	34
Plant Doctor	25
Playing with Language (oem)	19
Precision Mapping (2CD + phonedisk)	69
Prescription Drugs	27
Pro Phone 4th Quarter	*(75)99
Publish It 2.0 DOS	17
Publisher's Paradise	22
Publisher's Power House	19
Putt Putt: Fun Pak	28
Putt Putt: Joins the Parade	45
Putt Putt: Going to the Moon	45
QRZ: Ham Radio	12.50
Reference Library	17
Resource Audio I (shareware)	12.50
Resource Graphics I (shareware)	12.50
Resource Language/OS	17
Resource Multimedia	22
Return to the Moon oem / reg.	18/29
Return to Zork	21
Rom Man: Futura w. 3D hologram	7.95
QuickToons MAC, PC	19
Scrabble Crossword Game (deluxe)	29
Secret Weapons of the Luftwaffe	19
Selectware	7.95
Sci-Fi Fantasy	19
Shareware Explorer (4 CD set)	45
Shareware Heaven	14
Shareware Overload (3 CD set)	25
Sherlock Holmes I MAC	25
Sherlock Holmes III	55
Simtel MS Dos	12.50
Sing Along w. Christmas Songs	14.95
Sing Along w. Elvis	14.95
Sing Along Party Pack (2 CD + microphone)	45
Sleeping Beauty MPC	15
So Much Shareware III	19
Software Jukebox Arcade	34
Software Vault Games	15
Software Vault Gold	17
Software Vault Platinum Collection	15
Sounds 9000	19
Sound Library	10
Space and Astronomy	17
Space Adventure + Dinosaur Adventure	25
Space Quest IV - Roger Wilgo (oem)	15
Space Shuttle	19
Sports Best	18
Star War Rebel Assault	46
Star War Chess MPC	19
Stellar 7	15
Stories of Murder, Mystery, Magic & Terror	19
Straight from Heaven	14
Street Atlas 2.0 (DeLORME)	99
Super Clipart	13
Super Font	12.50
Super Game I / II	7.95/7.95
Super Game I + II WIN	15
Talking Schoolhouse	39
Tempra Access Photo CD DOS (color)	15
The Adventure of Willy Beamish	15
The Animals MPC / MAC	17/22
The Best of 20th Century	22
The Best of Photography (Nautilus)	43
The Women of Venus	20
Think and Talk Spanish (Fren/ Italian/ Ger)	105
Timetable of Arts and Entertainment	19
Timetable of Business and Politics	19
Timetable of History - Science	17
Travel Companion	19
Tropical Rainforest	32
Tuneland	52
Up All Night (shareware)	14
US Atlas 4.0 MPC	14
US History DOS, MAC	17
US State Fact Book	24
Virtual Reality	45
Vivaldi: The Four Seasons	29
Voyage to the Planets 1 / 2 / 3	49/49/49
Voyage to the Stars 1 / 2 / 3 / 4	49/49/49/49
Wild Places DOS, MAC	11
Windows Expert MPC	9.95
Windows Master	14
Windows Platinum	15
Wing Commander Deluxe II	35
Wizard (test & tune-up) MPC	12
Who Killed Sam Rupert	17
World Atlas 4.0 MPC	15
World Fact Book	19
World View DOS, MAC	11

*(price) .... special

CENTRAL
COMPUTER SYSTEM INC.
WIDE SELECTION AT LOW PRICES

Wide Selection At Low Prices

820 Kiely Blvd. Santa Clara CA 95051 Page 5 / 5

BUNDLES :

5 Pack # A	*119*
Compton's Interactive Encyc. 94' WIN	
CD Gamepack II or Reference Library	
Guiness Disk of Record MPC	
Timetable of History	
Secret Weapon of the Luftwaffe	
5 Pack (6 titles) # B	*99*
Microsoft Bookshelf 93'	
Mayo Clinic MPC	
Mammals	
Sound System	
Space Adventure + Dinosaur Adventure	
4 Pack (7 titles) # C	*89*
Grolier's Multimedia Encyclopedia 6.0 WIN	
Animals MPC	
CD Deluxe Pack MPC	
Wizard MPC	

ADULT Titles :

Adventure of Seymour Butts (interactive)	44.95
After Dark Trilogy (3 movies)	*(27.95)
All Beauty	24.95
American Girls	29.95
Amorous Asian Girls	39.95
Art of Picking UP Girls	39.95
Barlow Affairs (24 bit color)	47.95
Best of Best vol.1 / vol. 2	29.95/29.95
Best of Vivid Girls	34.95
Bustin Out	34.95
Busty Baby vol.2	27.95
Camp Double DD	29.95
Come Play with Me (interactive)	36.95
Cream de la Cream	27.95
Debbie Does Dallas	34.95
Deep Throat	34.95
Digital Dream	24.95
Ecstasy's Hot Pic's	21.95
Extremedelight + Dirty Talk (bundle)	44.95
Flame	25.95
GIFs the Keep On Giffing	29.95
Girls, Girls, Girls	27.95
Hidden Obessions	*(29.95)
House of Dreams	29.95
House of Sleeping Beauty	39.95
Insatiable	35.95
La femme Venus	34.95
LA Stripper	37.95
Loads of Fun	29.95
Legends of Porn vol.2	27.95
Mystique of the Orient	34.95
New Wave Hooker	27.95
Night Watch (interactive)	39.95
Northern Delights	34.95
Nova Collection I / II	25.95/25.95
Over Exposed	47.95
Pandora	29.95
Rimfire Pacific Video	*(27.95)
Secrets	27.95
Sinfully Yours	32.95
Southern Beauty (GIF)	29.95
Super Smutware	24.95
Traci, I love you	*(27.95)
The Devil in Miss Jones	34.95
Weekend At Ernies	29.95
Wicked Movie	44.95
Women who love Men & Men who love Women	27.95
X-Ray Bloopers	34.95

2. PC SOFTWARE

ADOBE

Illustrator 4.0 w. Streamline for Win	425
PhotoShop 2.5 for Win oem / reg.	295/515
- w. Illustrator 4.0	615
Premier 1.0 for Win	185
Streamline for Win	125
Type Manager 2.5 for Win	45

AUTODESK

AutoCAD Lite	439
AutoDesk 3D Concepts	145
AutoSketch for Win	*(125)
AuroSketch 2.0 for Win	209
Generic CADD 6.1	*(255)
Generic 3D	195
Graphic Impact	65
Home Series (home/ landscape/ kitchen+bath)	39
Instant Artist	39
Multimedia Explorer - CD version	115

BORLAND

Brief 3.1 for Dos & OS/2	95
C++ Prof 3.12 Application Framework (Edu.)	199
C++ Professional 4.0 for Win	335
- upgrade	189
dBase IV 2.0 for PC	*(455)
- upgrade	99
ObjectVision 2.1	102
ObjectVision Pro 2.1	*(199)
Office 2.0	359
- upgrade / competitive upgrade	229/275
Paradox 4.0 Dos	*(425)
Paradox 4.5 Dos	499
Paradox 4.5 for Win	*(99)135
- w. Quattro Pro	*(109)169
Quattro Pro 5.0 Dos	45
Quattro Pro 5.0 for Win	45
Quattro Pro Workgroups Edition	189
- upgrade	99
Screenery	25
Sidekick 2.0	*(19)
Turbo C++ 3.0 Dos	75
Turbo C++ 3.1 for Win	105
Turbo C++ Visual Edition for Win	*(79)
Turbo Pascal 7.0	115
Turbo Pascal 1.5 for Win	109

CA (Computer Associates)

Clipper 5.2	479
- upgrade / competitive upgrade	115/145
Criket Graphic 1.3 for Win	85
Simply Accounting Dos / for Win	69/69
Super Calc 5.5	99
Super Project 3.0 for Win	399

CENTRAL POINT

Anti-Virus 1.2 WINDOS	39
Anti-Virus 2.0 Dos	*(59)
Backup 8.0 Dos	*(59)89
PC Tools v8.0 / v8.0A	89/89
PC Tools 1.0 for Win	99
PC Tools Pro 9.0 Dos	95

IBM

OS/2 for Win FD / CD version	49.95/39.95
OS/2 2.1 - FD	149
- upgrade	109
OS/2 2.1 - CD version	135
- upgrade	99
PC DOS 5.0	39
PC DOS 6.1 oem / reg.	49/115

INTUIT

Quicken for 7.0 Dos	45
Quicken for 3.0 Win	45
QuickBook 2.0 for Win	95
QuickPay Dos	39
QuickPay 3.0 WINDOS	49
QuickBook & QuickPay Dos / for Win	110/119

LOTUS

1-2-3 4.0 for Win	*(225)
- upgrade	99
1-2-3 Dos Upgrade	99
1-2-3 Rel 2.4 Dos	325
1-2-3 Rel 3.1+ Dos	385
1-2-3 Rel 3.4 single	385
Ami Pro 3.01 for Win + Quicken	*(179)
- upgrade / competitive upgrade	65/99
Approach 2.1 for Win	*(99)239
Freelance Graphic 2.01 for Win	*(245)325
- upgrade	99
Improv	*(95)205
Notes Starter Pack 3.0	850
Organizer 1.1	95
Smart Suite 2.01	445
- upgrade	285

MICROGRAFX

ABC Flowcharter	315
Designer 4.0	*(425)445
- competitive upgrade	195
Graphics Works for Win	*(115)175
Picture Publisher 4.0 for Win	399
- competitive upgrade	189
Windows Draw 3.0	49

MICROSOFT

Access 1.1 for Win	305
- upgrade / competitive upgrade	15/129
Arcade Games for Win	27
Creative Writer	45
DOS 3.3	25
DOS 6.2	49
- upgrade to 6.2 / 6.2 stepup	49/9.50
Entertainment Pack for Win 1 / 2 / 3 / 4	28
Excel 5.0 for Win	294
- upgrade / competitive upgrade	89/119
Flight Simulator 5.0	39.95
- New York Scenery	28
- Paris Scenery	28
Fortran 5.1 Compiler	*(99)155
Fortran Powerstation 32 upgrade to NT	275
Fortran Powerstation	339
- upgrade / competitive upgrade	195/245
Fox Pro 2.5 Single Dos / for Win	315/315
- competive upgrade	189
Fox Pro 2.5 Distribution Kit Dos / for Win	319/319
- upgrade	195
Macro Assembler 6.1 (MASM)	*(129)
Mail Server 3.2 (10-user)	445
Money 2.0 for Win	*(9)
Multimedia Viewer - CD version	315
Office 4.0 for Win	*(445)465
- upgrade / competitive upgrade	235/279
Power Point v3.0 / v4.0	299/315
- upgrade	99
Profit for Win	129
Project 3.0 for Win	419
- upgrade	145
Publisher 2.0 for Win	*(89)
Scenes Screen Saver	23
Sound System + Windows 3.1	*(125)
Sound System 2.0 for Win	149
- software only	59
Test 2.0 for Win	315
- upgrade	99
True Type Font Pack 1 (for HP printers)	49
- Font Pack 2	49
Visual Basic 3.0 for Win - standard version	129
Visual Basic Professional 3.0 for Win	305
- upgrade fr standard to professional version	145
- upgrade	99
- competitive upgrade	195
Visual C++ S tandard version	129
- upgrade	79
Visual C++ Professional 1.0	309
- upgrade to 1.0	135
Visual C++ Professional 1.5 (w. MFC2.5, OLE2) CD version	369
- upgrade to 1.5	99
Visual C++ v1.5 for Win 16/32 bit - CD	485
- upgrade	195
Visual C++ for Windows NT	*(375)
- upgrade	98
Windows 3.1 (concise)	59
- upgrade	49
Windows 3.1 Device Driver Development Kit	315
Windows NT 3.1	*(265)
Windows Printing System	*(105)135
Windows for Workgroups (oem)	75
Windows for Workgroups (reg.)	135
- Workgroups Add On 3.11	55
- Workgroups Add On 3.11 MLP	39.50
Word 6.0 Dos	299
- upgrade	99
Word 6.0 for Win	295
- upgrade / competitive upgrade	89/125
Works 3.0 Dos	99
Works 3.0 for Win + Money 2.0	*(79)129

QUARTERDECK

DesqView 386 2.6	95
DesqView/X 1.2	165
DesqView/X Network Manager (TCP/IP)	129
Qemm 7.0	59
- upgrade	43

SANTA CRUZ OPERATION .... call

SYMANTEC

ACT! 2.1	255
- for 2-user	370
- 1.1 for Win	255
C++ Professional	319
- upgrade	189
Norton Anti-Virus 3.0	85
Norton Commander 4.0	69
Norton Desktop for Win v2.2 / v3.0	99/115
Norton Speed Drive (speeds Win, Dos, CD)	69
Norton Utilities 7.0	*(99)
On Target for Win	89
PC Anywhere 4.5 Remote & Host Dos	115
- for Win	119
PC Anywhere Lan Complete	385
Q & A 4.0 Dos	239
Q & A for Win	*(165)
Q & A Write (word processing)	49

WORDPERFECT

PlanPerfect	*(195)255
Wordperfect 5.2 for OS/2	275
- upgrade	105
Workperfect 6.0 Dos	265
- upgrade	99
- Educational Offer	*(99)
Workperfect 6.0 for Win (FD or CD)	269
- upgrade / competitive upgrade	99.50/125
- w. Quattro Pro	289
- Educational Offer + Quattro Pro	135
WP + Paradox + Quattro (Borland Office)	359
- upgrade / competitive upgrade	229/275
WP Office 4.0 for Win - server	175
- Client 5 pk	289

OTHERS

After Dark Screen Saver for Win / Dos	29/29.50
- More After Dark	27

ALDUS

- Freehand 3.1 for Win	379
- Pagemaker 5.0 for Win	*(479)
-- w. ZScan	499
- w. Artec Scanner	529
- Persuasion 2.1 for Win	325
- Photostyler 2.0 for Win oem / reg.	295/355
AST (business or medical s/w)	call
Asymetrix Multimedia Make Your Point	45
Bitstream True Type Font Pack	*(9)
Body Works 3.0	39
Boot Con 2.0	49
By Design for Win	59

CAERE

- Fax and Find for Win	155
- Omni Page Direct OCR	185
- Omni Page Professional 2.1 for Win	*(465)
- Omni Scan	299
Cakewalk Professional 2.0 for Win	235
Canvas for Win	265
- competitive trade up	99
Carbon Copy 6.1 Guest & Host Dos	112
Carbon Copy 2.0 for Win	115
Check-It Pro Analyst for Win	*(59)
Check-It Pro vol.1 & vol. 2	85
Check-It Plus 3.0	85
Claris Works for Win / w. Quicken.	99/125
CommonWorks for Win	125
Corel Draw 3.0	*(129)
Corel Draw 2.5 for OS/2	135
Corel Draw 4.0 - FD / CD version	385/355
- upgrade -FD / upgrade -CD	215/*(135)
Corel Ventura 4.2 - FD / CD version	175/145
DacEasy Accounting 4.4	95
Dash Board for Win (by HP)	45
Design CAD 2D 7.0 for Win	179
Direct Access 5.1 Dos / 1.0 for Win	65/29
Disney Screen Saver	29
EasyDOS (menu for Win)	25
Eclipse Fax 1.2 for Win / w. OCR	69/79
Energizer Bunny Screen Saver	15
Family for Win	19.50
Fastback Plus 6.0 Dos / 3.1 for Win	89/99
Fax-it WINDOS	69
File Maker Pro 2.1 for Win	*(125)
Font Minder for Win	55
Fractal Design Painter 2.0 for Win	255
- X2 for Win	85
FrameMaker 4.0 for Win	549
- upgrade	189
FTP : PC/TCP Dos / for Win	345/345
GDI : Flash Form / Wind Form	55/65
Grammitik V Dos / for Win	57/59
Harvard Graphics 2.0 for Win	*(265)
- upgrade	89
Harvard Graphics 3.06 Dos	375
Hijaak 2.1 Dos / 2.0 for Win	89/85
Hollywood for Win	*(39)
Idealisher 4.0	99
IIT XtraDrive 3.0 (data compression)	65
Intermission Screen Saver	29
Johnny Castaway Screen Antics	19
Kar's Power Tools	99
Kodak PhotoEdge CD	89
Kodak Shoebox Image for Win	*(95)
LapLink V / Upgrade	105/55
LapLink V Netware	*(125)145
Lyriq Crosswords	19.50
Mac-in-Dos for Win	99
Pacioli 2000	*(10)
Passport Encore 3.0	365
Peach Tree Accounting 2.0 for Win	115
PFS : Publisher for Win	43
Photo Morph	79
Power Basic	95
Power Japanese for Win	225
Power Search (file manager)	39
Printshop Deluxe 1.2 for Win / Business	49/27
Procomm Plus 2.1 Dos / 1.02 for Win	69/95
QA Plus 4.7 Dos / for Win	85/89
Quark X Press 3.1 for Win	559
Qualitas 386 Max 7.0	63
Right Writer 5.0 Dos / 6.0 for Win	29/29
Sherlock for Win (filing & retrieval)	85
SpinRite 3.1	79
Stacker 3.1	95
- upgrade	55
- for OS/2	125
StageSoft Accounting	125
- w. Payroll / Lan version	159/285
Star Trek Screen Saver	29
Superstor 2X / Pro 2X	29/79
Taxi w. Zagat Surveys	39
This is My Computer	8.50
Time Slip 5.0 Dos / for Win	169/189
Turbo CAD 3.0 w. free 500 drawing symbols	85
- Professional version for Win	219
Turbo Tax Headstart State Dos / for Win	23/23
- Headstart 1040 Dos / for Win	39.95/39.95
- w. Quicken for Win	55
T-Value 3.0 (interests, loan)	59
Uninstaller 2.0 (microhelp)	45
Unixware Personal Edition - CD version	175
Unixware SDK v1.1 - CD version	75
Vista Pro 3.0	69
VISIO 2.0 for Win	*(125)199
Wave for Win	75
Winfax Pro 3.0	79
WinGlot Plus	42
WinSense (windows optimizer)	49
Winsleuth Gold Plus	59
Wordscan 2.0 / Plus (by CALERA)	179/369
XTree Gold 3.0	99
Xtree 1.5 for Win	69

●

---

*(price) .... special

continued from page 52

Trio Fax/Modem/Ethernet PCMCIA card, PageCard pager, Mobile GPS Global Positioning System card
Socket Communications, Inc.
2501 Technology Dr.
Hayward, CA 94945

Avatar Systems Corporation has created a 2.5" 85.4MB removable cartridge drive with a 14ms seek time. The drive is small enough to fit in many subnotebooks and even sub-subnotebooks; since it's removable-media, it's ideal for super-portable computers: when you want to quickly swap in or out some files or back up data from the internal hard drive, it can be done rapidly and easily to the removable cartridge.

PCMCIA News

- Coastal Electronics has announced the Little Drive III Plus, a PCMCIA card drive that attaches to PCs. The drive fits in a 3.5" floppy disk bay, and interfaces to your PC by emulating the standard floppy disk interface of your disk controller card. The drive retails for $179.95.

  Because it does not use the parallel port of your computer, it has the potential to be much faster than similar devices that operate via the parallel port; however, we were not able to test the speed of the unit.
- Socket Communications has announced a few unusual and intriguing PCMCIA cards. The TRIO is a 14.4kbps fax, 14.4kbps modem, and a 10BaseT/10Base2 Ethernet card. This device saves a PCMCIA slot by combining two popular functions (faxmodem and Ethernet card) into one card. If your computer has only one slot, this could well be the right card to fill it.

  The PageCard, another of their new cards, is an alphanumeric pager with a standalone LCD display. In addition to being a full-function autonomous pager, it also has a PCMCIA interface. The interface can be used to transfer data to your portable PC or palmtop and deliver messages to many popular email packages. Price for the PageCard will be less than $495.

  Most fun of all, however, perhaps, is their Mobile GPS, a Global Positioning System receiver that receives free satellite positioning data and tells you your exact position and velocity, as well as giving you the current world atomic clock time. This receiver resides on a single Type II PCMCIA card, giving your notebook computer the ability to act as a navigational device most anywhere in the world. If you're out in the wilderness or out at sea (and happen to have your Type II PCMCIA-capable palmtop computer with you), you could use this card to give you exact longitude and latitude positioning information. Could come in quite handy out there in the wild. In the future, map software manufacturers could use this device in conjunction with their software to give you both precise location information as well as a map of your surroundings, all automatically.

Franklin Digital Book Pager

The Franklin Digital Book System is a small device used for information lookup and retrieval. It does not come with any organizer functions whatsoever; however, a large number of "digital books" have been published by Franklin, ranging from medical references to dictionaries.

In an interesting twist, SkyTel Corporation has created a pager card for the Franklin DBS-2, which will receive alphanumeric paging information. Franklin itself is also developing pager technology with special software that allows vertical applications to be developed with on-card databases (such as price lists), which can be automatically updated in the field via the paging network. ■

Remember that any BBS or Internet node or online service that handles your message is in a position to intercept your message traffic.

continued from page 86

a key or access the hard drive. It acts as a radio transmitter. Also, these signals leak into your power lines, making for another way for people to find out what you're doing.

Your keystrokes can be picked up by a radio frequency receiver, a computer, and the right kind of black box in between, within a few hundred or thousand feet, and that system might be in a neighboring building, or a van or truck. An ultrasophisticated system could be put into a briefcase or smaller box.

This method is little known, generally the domain only of people under contract to the FBI, CIA, and NSA and of hardware hackers with a "ham radio" background. However, it's fairly inexpensive to implement if you know how to do it and can build it yourself, so it can't be completely ignored.

Your computer may be Class A FCC electromagnetic interference certified. This is the FCC standard for office and industrial use. It is not intended to keep your information inside the computer. The Class B standard for the home allows 1/10th the emissions of the Class A standard. If this is a consideration for you, look for the markings on the back of the equipment, or the tags that will tell you if your items are Class A or Class B. Make sure your cables are good quality and shielded (copper mesh or foil around the conductor wires), don't use ribbon cable outside the computer, don't run your computer with the cover off, make sure the covers on unused slots are on, plug your computer into power strips with RF/EMI filters.

These are good practices even if you aren't worried about people listening in on your computer. The same emissions that come out of your computer and can be picked up by snoopers are also the ones that will interfere with any radio or TV in its vicinity; the techniques for keeping your computer from broadcasting to snoopers will also keep the signals out of your TV or radio and those of your neighbors.

"Tempest" for the ultimate in shielding. Unfortunately, not only are "Tempest" shielded workstations extremely expensive, they and their specific technology are only available to organizations with Department of Defense security clearances.

For the seriously paranoid: General information on shielding and grounding can be found in the ARRL Amateur Radio Handbook in the section on electromagnetic interference. An article on home-brew prevention of TEMPEST eavesdropping is available via anonymous ftp from: netcom.com in directory /pub/grady/TEMPEST.txt

LAPTOP SECURITY

Laptops and smaller computers are very popular targets for theft. If you take your computer into the field with proprietary data on it, keep it either in your physical custody or in a safe place, for instance, the security vault in your hotel or motel if it has one.

This is one place where DES encrypted laptop hard drives, such as the ones available from BCC in San Jose, CA (the SL007 notebook computer and the DES-AT Encryption PCMCIA card) actually make sense, as the person stealing the machine will generally have to reformat the hard drive in order to make personal use of the system. This assumes, of course, that critical data has been backed up at a secure location. ■

From 64-Bit Pentium Processor to 200MHz DEC Alpha on PCI Bus, Make your next high-end System purchase From NOW Electronics, Because If It's Not NOW............ It Must Be History!

Intel Pentium Processor Based Systems-ISA/PCI/VESA Bus

Endeavor PCI

The Endeavor PCI carries an exceptionally low price tag! with Pentium Processor, Micronics board, ATI Video and NEC Monitor...

It's an offer you just can't let go!

MICRONICS MP5i Motherboard
Pentium/PCI Architecture

- 60MHz Intel Pentium Processor
- Micronics MP5i P5/PCI/ISA Motherboard
- 256K write-back cache, 16K on CPU
- 8MB RAM 72-pin 70ns up to 128MB
- 340MB Western Digital IDE 12ms HD
- 1.44MB TEAC Floppy Drive
- NEC 14" 1431 .28dp NI LR Monitor
- 32-bit PCI Integrated IDE controller
- 32-bit PCI ATi XLR 2MB VRAM Video Card
- Deluxe Medium-Tower Case 230W
- 101 Enhanced Keytronic Keyboard
- 3-PCI, 4-ISA and 1-PCI/ISA Slots
- Integrated 2S and 1P Ports
- DOS 6.2 and Windows 3.1 w/Manuals

66MHz Pentium Processor *Please Call!*

$2795

BEST SELLER Challenger PCI

The Challenger PCI is a lightning fast system that is guaranteed to deliver the ultimate performance of the Pentium/PCI Technologies. It incorporates a motherboard designed and manufactured by the inventor of PCI/Pentium-Intel Corporation and a video card (Viper PCI) designed and Manufactured by Diamond Computer Systems.

Intel Premiere/PCI Motherboard
64-Bit Pentium/PCI Architecture
Diamond Viper PCI 84M WinMarks

- 60MHz Intel Pentium Processor 16K cache
- 64-bit Intel Premiere/PCI Motherboard
- 256K direct mapped, write-back cache
- Intel Mercury Chipset, Buffers and Bridges
- 16MB 72-pin RAM on 64-bit Bus
- 425MB Western Digital IDE Caviar 12ms
- 1.2 and 1.44 High Density Floppy Drives
- Viewsonic 15" Flat .28 NI Monitor
- 32-bit PCI Diamond Viper 2MB 84M WinMarks
- 32-bit PCI Local Bus IDE Controller
- Deluxe Full Tower case 300W Dual Fans
- 101 Enhanced Keytronic Keyboard
- 3-PCI, 4-ISA and 1-PCI/ISA Slots
- Integrated 2S 16C554 & 1P bi-direc.
- Socket #4 for Intel OverDrive Processors
- Flash AMIBIOS, PS/2 and 2.88 Support
- DOS 6.2 and Windows 3.1 w/Manuals

66MHz Pentium Processor,
PCI SCSI Option *Please Call!*

$3695

NEW Evolution

The "State-Of-The-Art" System

Technically speaking: "Our new Evolution system is an embodiment of what the PC industry has evolved to be today". With 66MHz Pentium processor speed, EISA/PCI wide data busses and Matrox 92M WinMarks video... we truly believe that this system will quench your thirst for power!

66MHz Intel Pentium Processor
EISA/ISA/PCI Architecture
Matrox MGA 64-bit Video
Up to 92M WinMarks!

- 66MHz Intel Pentium Processor 16K cache
- EISA/PCI Pentium 64-bit Motherboard
- 512KB direct mapped, write-back cache
- Intel Mercury Chipset, Buffers and Bridges
- 16MB 72-pin RAM on 64-bit path max 160
- 540MB Quantum SCSI-2 10ms 512K Hard Drive
- 1.44 High Density Floppy Drive
- 17" ViewSonic 17G .28 NI LR Flat Monitor
- PCI Matrox MGA 64-bit 2MB 92M WinMarks
- PCI Local Bus Fast SCSI-2 Controller
- Deluxe Full Tower case 300W Dual Fans
- Focus 2001 click Keyboard
- 2 serial 16550 UART & 1 BI-dir. Parallel Ports
- 3PCI, 4-EISA/ISA and 1-PCI/EISA Slots
- DOS 6.2 and Windows 3.1 w/ Manuals

$4695

MULTI MEDIA Upgrade Kits

KIT #1 STARTER KIT $295
- Panasonic 562 dbl spd/320ms
- Sound Blaster Pro Deluxe
- Two stereo speakers

KIT #2 ADVANCED KIT $455
- TEAC CD-50 dbl spd/265ms
- Pro Audio Spectrum 16
- Labtec 150 amplified speakers

KIT #3 PROFESSIONAL KIT $595
- Toshiba 3401B/dbl spd/200ms
- Pro Audio Studio 16
- Labtec 550 amplified speakers

KIT #4 ULTIMATE KIT $795
- NEC 3XI triple speed 195ms
- Sound Blaster 16ASP SCSI port
- Altec ACS-50 speakers

RISC Processor Based Systems-32-bit/64-bit Local Bus/PCI-MIPS and DEC's Alpha!

Introducing a new line of high-performance systems based on RISC processors. Now you can configure your own RISC base system. All systems are Pre-loaded with Microsoft Windows NT and are specifically tuned to optimize its performance.

MIPS RISC 4000/4400 50/100MHz & 67/133MHz

- 64-bit MIPS design RISC Processor
- R4000PC-100/133MHz (2X) 16K int. Cache
- R4400PC-100/133MHz (2X) 32K int. Cache
- 512K External L2 Cache
- 16MB RAM 72-pin 64-bit Bus (max 256MB)
- 540MB Fast SCSI-2 8.5ms Hard Drive
- 64-bit Integrated Fast SCSI-2 interface
- 1.44MB High-density Floppy Drive
- 64-bit Local Bus Video adapter 2MB VRAM Upgradeable to 4MB 1280x1024 16.7M colors
- Deluxe Full-Tower Case 250W with door
- 101 Enhanced PS/2 compatible Keyboard
- 5-ISA Expansion Slots
- Integrated 2S and 1P Ports
- 32-bit Integrated Ethernet adapter
- Microsoft Windows NT with License
- Designed and Manufactured in the U.S.A.
- (Monitor not included)

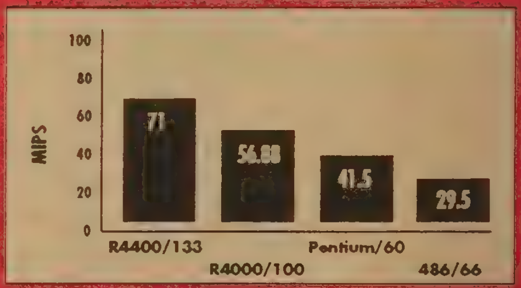
R4000 50/100MHz..............................$3995
R4400 50/100MHz..............................$4295
R4400 67/133MHz..............................$4595
R4400 75/150MHz..............................$5195

DEC Alpha AXP RISC 166/200MHz-PCI Bus

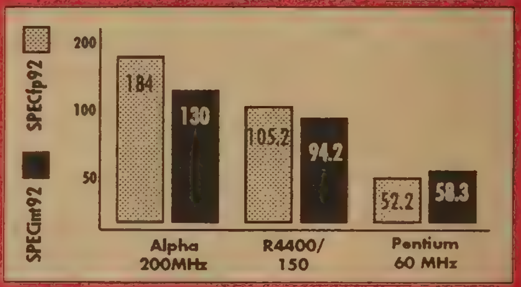
- 64-bit DEC Alpha AXP RISC Processor
- 166MHz or (200MHz) Processor option
- 256 (512K) External Cache
- 16MB RAM on 64 (128)-bit Memory Bus
- 540MB Fast SCSI-2 8.5ms Hard Drive
- 1.44MB High Density Floppy Drive
- 32-bit PCI Integrated Fast SCSI-2 interface
- 32-bit PCI local Bus Video adapter 2MB VRAM Upgradeable to 4MB 1280x1024 16.7M colors
- Deluxe Baby AT (Full-Tower) Case 250W
- 101 Enhanced Keyboard
- 2-PCI and 3-ISA slots
- Integrated 2S and 1P Ports
- 32-bit PCI Integrated Ethernet adapter
- Microsoft Windows NT with License
- Designed and Manufactured in the U.S.A.
- (Monitor not included)

DEC Alpha 166MHz..........................$5395
DEC Alpha 200MHz..........................$6695

MIPS R4400/150 vs. Pentium/60



Power Meter benchmarks under Windows NT



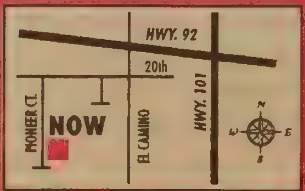
NOW ELECTRONICS, INC.

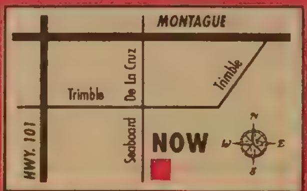
San Mateo

TEL: 415/345-4577

Hours:
M-F 9-6:00
Sat. 11-5

FAX: 415/345-4576
2031 Pioneer Court Ste. 2
San Mateo, CA 94403





San Jose

TEL: 408/894-7060

FAX: 408/894-7062
2526 Seaboard Ave.
San Jose, CA 95131

Hours:
M-Th. 9-7:00
Fri. 9-6
Sat. 11-6

Cash Prices *Prices are subject to change without notice. Not responsible for typographical errors.

Are You Suffering From Computer Anxiety?

- Should I buy ISA, EISA, VESA or PCI?
- What's the difference between DX2, DLC, SLC2...etc?
- Is the Pentium Processor running at 60MHz or it is also a clock doubler?
- Oh no! There are RISC systems to worry about now!
- Is the P24T OverDrive the same as the Pentium Processor?
- What the heck is a "Green PC", and do I need it?

That's it, I've had enough,
I am just gonna call NOW
and get it over with.

The Latest in Technology...

Intel Pentium Processor
PCI Local Bus
75MHz Clock Tripler
IBM Blue Lightning
Green PC's
RISC Machines
Are Available
now at NOW!

66MHz Intel 486-DX2 Processor Based-ISA/EISA/VESA/PCI Bus

Commander

"Just-The-Right-Configuration-System", Plenty of RAM and Hard Drive Storage. Ideal for those who need a Fast, Reliable and Upgradable system and are on a tight budget.

ASUS or AIR Motherboard
ISA/VESA Architecture

- 66MHz Intel 486DX/2 CPU with Fan
- ASUS or AIR ISA/VESA Motherboard
- 256K write-back cache
- 8MB 70ns RAM up to 64MB
- 340MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- 15" ADI 4G MicroScan NI Flat Monitor
- 32-bit Diamond Stealth 24 VLB 1MB RAM
- 32-bit Promise Tech VLB IDE Controller
- Medium-Tower Case 230W 2 Fans
- 101 Enhanced Keytronic Keyboard
- 3-VESA (2 on ASUS) 5-ISA Slots
- Pentium OverDrive ZIF Socket

PCI Option ADD $200

$1995

Genesis PCI

The popularity of our previous Genesis with VLB bus induced us to introduce the same configuration but with a faster Bus-PCI. Genesis PCI is a high-quality machine that is built for those who are seeking Brand-name components at a low price. Ideal for home or office use.

AMI SuperVoyager PCI
ISA/PCI Architecture

- 66MHz Intel 486DX/2 CPU
- AMI SuperVoyager PCI Motherboard
- 256K write-back cache
- 8MB 72-pin 70ns RAM
- 425MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- 15" MAG MX15F LR NI Monitor
- 32-bit PCI ATi XLR 2MB VRAM
- 32-bit PCI IDE Controller
- Deluxe Medium-Tower Case 2 Fans
- 101 Enhanced Keytronic Keyboard
- 2-PCI, 5-ISA and 1-ISA/PCI Slots
- Pentium OverDrive ZIF Socket
- DOS 6.2 and Windows 3.1 w/Manuals

$2695

Warrior II

BEST SELLER

If you are looking for reliability, speed and performance, then you are in with a Warrior. Built to meet the needs of CAD designers, Software developers and Desktop Publishers.

AMI Enterprise IV
17" MAG MX175 Monitor
ISA/EISA/VESA Architecture

- 66MHz Intel 486DX/2 CPU with Fan
- AMI Enterprise IV Motherboard
- 256K write-back cache
- 16MB 72-pin Fast RAM up to 256MB
- 540MB Quantum SCSI-2 Hard Drive
- 1.2 and 1.44MB Floppy Drive
- 17" MAG MX17F .26dp LR NI Monitor
- 32-bit Diamond Viper VLB 2MB Video
- 32-bit BusLogic 445S VLB SCSI-2 Contr
- Deluxe Full-tower Case 300W 2 Fans
- 101 Enhanced Keytronic Keyboard
- 2-VESA, 5-EISA BusMastering Slots
- Pentium Overdrive ZIF Socket
- DOS 6.2 and Windows 3.1 w/Manuals

American Megatrends

$3995

IBM 66/75MHz CPU, Multimedia, Green PC and Best Buy Systems

IBM SLC2/66MHz VLB
IBM BL3/75MHz VLB

GREEN PC

- 3 Year Warranty on Main Board
- Made in the U.S.A. by IBM for Alaris
- Green Leopard/Cougar Motherboard
- IBM 486SLC2 or BL3/75MHz CPU
- 16K CPU and 128K Ext. Caches
- 4MB 70ns RAM expandable
- 210MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- Green 14" SVGA .28dp Non-Int. Monitor
- 32-bit Alaris Tomahawk VLB 1MB RAM
- 32-bit Alaris Patriot VLB IDE Controller
- Green 230W PS
- Desk-Top or Mini-Tower Case
- 101 Enhanced Keyboard
- On-Board Math-Coprocessor
- 2-VESA and 5-ISA Slots
- 2S, 1P, and 1 Game Ports
- Pentium Overdrive Socket (Cougar)

Leopard 66MHz	**$1395**
Cougar BL3/75MHz	**$1795**

Intel 486 33/66MHz

GREEN PC

- Totally Green, 70% less power consumption
- Intel 486 DX/33 and DX2/66MHz CPU
- Green VESA/ISA Motherboard
- 256K write-back cache
- 4MB 70ns RAM up to 64MB
- 250MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- Green 14" SVGA .28dp NI Flat Monitor
- 32-bit Diamond Stealth 24 VLB 1MB RAM
- 32-bit Promise Tech VLB IDE Controller
- Green 230W PS
- Medium Tower Case
- 101 Enhanced Keyboard
- 3-VESA and 5-ISA Slots
- Pentium Overdrive ZIF Socket

Intel 486 DX/33MHz	**$1495**
Intel 486 DX2/66MHz	**$1695**

PowerMedia
The Best of Multimedia

- Intel 486 DX2/66 CPU
- ISA/VESA Motherboard
- 256K write-back cache
- 8MB 70ns RAM up to 64MB
- 340MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- 15" ADI 4G MicroScan Flat NI Monitor
- 32-bit Stealth 24 VLB Video 1MB RAM
- 32-bit VLB Promise IDE Controller
- Medium Tower Case 230W PS
- 101 Enhanced Keyboard
- Toshiba SCSI-2 200ms CD-ROM
- Pro Audio Studio 16 Sound Card
- Labtec 550 amplified speakers
- DOS 6.2 and Windows 3.1
- Logitech Mouse
- 3-CD w/Encyclopedia

$2795

FamilyMate
Home/MultiMedia PC

- Intel 486 DX/33 CPU
- ISA/VESA Motherboard
- 256K write-back Cache
- 4MB 70ns RAM up to 64MB
- 210MB Western Digital IDE 12ms HD
- 1.2 and 1.44MB Floppy Drives
- 14" SVGA .28dp NI Monitor
- 32-bit VLB Video 1MB RAM
- 32-bit VLB IDE Controller
- Mini-Tower Case 200W PS
- 101 Enhanced Keyboard
- Panasonic 562 CD-ROM dbl speed
- Sound Blaster Pro DLX w/software
- Pair of Stereo Speakers
- DOS 6.2 and Windows 3.1
- Logitech Mouse
- 3-CD Titles

$1795

OPTIONS & UPGRADES

MultiMedia Upgrades

CD-ROM (Int.)

NEC CDR-3Xi	$469
Toshiba 3401B	$349
TEAC CD-50	$269
Panasonic 562	$189
SCSI Controller	$49

Sound Cards

SB Pro Dlx	$99
SB 16ASP MultiCD	$199
SB 16ASP SCSI-2	$219
PA Spectrum 16	$149
PA Studio 16	$189
Turtle Beach MultiSnd	$499

Speakers

Labtec 150/550	$22/29
Altec ACS 50/300	$79/299

Monitor/Video

NEC, Sony, Nanao, MAG, ViewSonic, ATi, Diamons, Matrox, Orchid...etc,............***Please Call***

Fax/Modem

96/24 Fax/Modem	$45
Zoltrix 14.4K F/M	$129
USR Sportster 14.4 F/M	$155
Intel Satisfaction 400	$289

Storage Devices

CMS DJ-20 250MB TBU	$149
Archive 525MB SCSI	$499
HP 2.0GB SCSI w/Kit	$1099
CMS PT-25 2.4GB TBU	$995
SyQuest 88MB C SCSI	$299
Iomega 21MB Floptical	$389

Pointing Devices

3-Button Mouse	$15
Logitech 1st Mouse	$25
Logitech Mouseman	$55
Logitech TrackMan	$79
MS Mouse II	$39

Software

DOS 6.2	$42
Windows 3.1	$42

GUARANTEES:

1. 1 Year Parts & Lifetime Labor
2. 72 Hour Burn-in and Quality Check
3. Original Brand New Parts and Manuals
4. 100% IBM, NOVELL Compatibility
5. Life-time Technical Support and Advice
6. Prompt Courteous Sales & Tech Staff

PARTIAL LIST OF OUR CORPORATE AND GOV'T. CUSTOMERS:

Federal Govt, Lockheed Space and Missile, State of California, Federal Express, Metropolitan Insurance, Adaptec, Cal-Trans, Nat'l Semiconductors, AT&T, UC Berkeley, Lawrence Livermore Labs, Continuum Lasers,...and many more.
(Contacts and Phone #'s are available upon request).

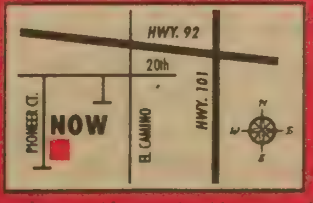
CALL FOR PRINTERS & SOFTWARE

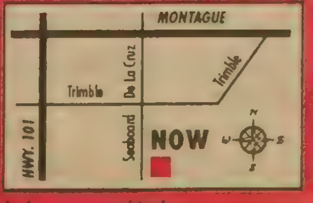
NOW
ELECTRONICS, INC.

San Mateo
TEL: 415/345-4577

FAX: 415/345-4576
2031 Pioneer Court Ste. 2
San Mateo, CA 94403

Hours:
M-F 9-6:00
Sat. 11-5





San Jose
TEL: 408/894-7060

FAX: 408/894-7062
2526 Seaboard Ave.
San Jose, CA 95131

Hours:
M-Th. 9-7:00
Fri. 9-6
Sat 11-6

*Cash Prices *Prices are subject to change without notice. Not responsible for typographical errors.*

Calendar Of Events *continued from page 248*

March 18–19 Publicity For Multimedia Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 18 & 21 Beginning Photoshop Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 19 & 26 Local Area Networks Class. San Francisco. San Francisco State Extension. Call: (415)904-7770.

March 20 Intro To Pre-Press On the Mac Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 20 QuarkXPress Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 20 System 7 Workshop. San Francisco. Media Alliance. Call: (415)771-7133.

March 21 Basics Of UNIX Class. San Francisco. Network Services Group. Call: (415)863-8407.

March 21 Illustrator For Windows Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 21–22 USENIX/SAGE Security & System Administration Management Seminars. San Francisco. USENIX. Call: (510)528-8649.

March 21–25 Softdesk AdCADD Civil Class. San Francisco. San Francisco State Extension. Call: (415)904-7710.

March 22 Advanced DOS Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 22 Intermediate Microsoft Word Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 22 Intermediate Paradox For DOS Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 22 Level 3 Word For Windows 6.0 Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 22 Mac Basics Level II Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 23 Freehand For Windows Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 23 Intermediate WordPerfect For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 23 Level 3 WordPerfect 5.1/6.0 For DOS Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 23 Mac Basics Level 1 Class. San Francisco. Media Alliance. Call: (415)771-7133.

March 23 Microsoft Excel Macros Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 23–24 Quark Project Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 24 Intermediate WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 24 Lotus Notes Technical User Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 24–31 Painter Class. San Francisco. Center for Electronic Art. Call: (415)956-6500.

March 24–May 26 Advanced MacroMedia Director Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 24–May 26 New Journalism Career: Taking Multimedia To The Streets—Artitorial Productions Across Platform Barriers Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 25 Advanced Illustrator Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 25 Advanced Microsoft Word Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 25 Intermediate Excel For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 25 Level 3 WordPerfect 6.0 For Windows Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 25 WordPerfect/DOS Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 28 Aldus Persuasion For Windows Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 28 Free Internet Productivity Tools For Office Automation Class. San Francisco. Network Services Group. Call: (415)863-8407.

March 28 Intermediate Word For Windows 2.0 Class. San Francisco. The Dublin Group. Call: (415)227-4800.

March 28 Lotus Notes System Administration I Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 28 Macintosh Network Administration Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 28 Microsoft Excel For Windows Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 28 Windows On A Network Class: Tech Support Tips. San Francisco. The Dublin Group. Call: (415)227-4800.

March 28–April 1 Supporting Microsoft Windows NT Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

March 29 Advanced Excel Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 29 Advanced Photoshop Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 29 Paradox For DOS Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 29 Paradox For Windows Level I Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 29–April 26 What Every Multimedia Developer Should Know About Publishing Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 30 Advanced FileMaker Pro Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 30 Media Selection And Evaluation Seminar. San Jose. Business Marketing Association. Call: (408)365-9815.

March 30 Microsoft Word For Windows Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 30 Successful GUI Migration Strategies Seminar. Santa Clara. DCI. Call: (508)470-3880.

March 30 Visual Basic Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 30–31 Authorware Basics Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 30–31 Technology Update: Client/Server, Downsizing CASE, And Database Seminar. Santa Clara. DCI. Call: (508)470-3880.

March 30–31 Understanding Local Area Networks Workshop. San Francisco. Advanced Information Technologies. Call: 1-800-882-8684.

March 31–April 1 Effective GUI Design Seminar. Santa Clara. DCI. Call: (508)470-3880.

March 30–May 18 Survey Of Multimedia Titles: Beethoven's Ninth, Spaceship Warlock, Grandma & Me, And Others Class. San Francisco. San Francisco State Extension. Call: (415)904-7700.

March 31 FileMaker Pro For Windows Level II Class. San Francisco. Cyber Training Services. Call: (415)974-7200.

March 31 Intermediate Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

March 31 Level 2 Upgrade WordPerfect 5.1 To 6.0 For DOS Class. Emeryville. Northwest Computer Systems. Call: (510)653-0808.

March 31 Lotus Notes System Administration II Class. Santa Clara. Infotec Training Institute. Call: 1-800-282-7990.

Rainbow Computer

THE LOW PRICE LEADER WITH QUALITY SERVICE!

$1320

486DX2-66

128K VESA LOCAL BUS

- VESA 32 Bit Motherboard
- Pentium ZIF Socket
- Intel CPU, AMI BIOS
- 4 MB RAM Exp. to 32 MB
- 210 MB Hard Drive
- Teac 1.2 & 1.44 MB Floppy Drives
- 32 Bit VLB IDE I/O
- 32 Bit Cirrus Logic SVGA w/1 MB
- SVGA Monitor 1024x768 .28dp
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

$1130

486DX-33

128K VESA LOCAL BUS

- VESA 32 Bit Motherboard
- Intel CPU, AMI BIOS
- 4 MB RAM Exp. to 32 MB
- 210 MB Hard Drive
- Teac1.2 & 1.44 MB Floppy Drives
- 32 Bit VLB IDE I/O
- 32 Bit Cirrus Logic SVGA w/1 MB
- SVGA Monitor 1024x768 .28dp
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

$1240/1060

486DX2-66/33

- Intel CPU, AMI BIOS
- 128K External Cache
- 4 MB RAM Exp. to 32 MB
- 210 MB Hard Disk
- 1.2 MB Floppy Drive
- 1.44 MB Floppy Drive
- SVGA Monitor 1024x768 .28dp
- Trident SVGA Card
- IDE I/O of 2FD/2HD/2S/1P/1G
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

$840

486DLC-40

- Cyrix CPU and Math Chips
- 128K External Cache
- 4 MB RAM Exp. to 32 MB
- 210 MB Hard Disk
- 1.2 MB Floppy Drive or 1.44 MB Floppy Drive
- SVGA Monitor 1024x768 .39dp
- Trident SVGA Card
- IDE I/O of 2FD/2HD/2S/1P/1G
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

$815/790

486SX-33/25

- Intel CPU, AMI BIOS
- 4 MB RAM Exp. to 32 MB
- 170 MB Hard Disk
- 1.2 MB Floppy Drive or 1.44 MB Floppy Drive
- SVGA Monitor 1024x768
- Trident SVGA Card
- IDE I/O of 2FD/2HD/2S/1P/1G
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

$750

386DX-40

- INTEL CPU, AMI BIOS
- 4 MB RAM Exp. to 32 MB
- 170 MB Hard Disk
- 1.2 MB Floppy Drive or 1.44 MB Floppy Drive
- SVGA Monitor 1024x768
- Trident SVGA Card
- IDE I/O of 2FD/2HD/2S/1P/1G
- Mini Tower or Desktop Case w/PS
- 101 Enhanced Keyboard
- 3 Button Mouse

MULTIMEDIA

MULTIMEDIA KITS:

Discovery CD-8 .... $350

- Sound Blaster Pro
- CD-ROM Drive
- Speakers
- 4 Software

Edutainment CD-16 .... $470

- Sound Blaster 16
- CD-ROM Drive
- Speakers
- 8 Software

Sony $320

- Spectrum 16
- Sony CD-ROM Drive
- Speakers
- Double Speed

CD-ROM & SOUND CARDS

•Mitsumi CD-ROM	$135
•Mitsumi CD-ROM (Double Speed)	175
•Spectrum 16 Sound Card SCSI/AT	140/130
•Sound Blaster Pro	105

CD TITLES

•Animals-San Diego Zoo (MPC)	$14
•Arthur's Teachers Trouble (MPC)	18
•Carmen San Diego Deluxe	18
•CD Deluxe Pak	21
•Mayo Clinic Family Health	16
•Dinosaurs & Space Aventure (MPC)	25
•Groliers Encyclopedia (MPC)	31
•Mother Goose (MPC)	13
•Microsoft Works (MPC)	27
•Reference Library	15

HARD DISK DRIVES

170 MB (Conner)	$178
210 MB (Conner or W.D.)	190
250 MB (Conner)	215
270 MB (Quantum)	225
340 MB (Conner)	255
540 MB (Conner)	480
1.2 GB SCSI (Fujitsu)	790

DISK CONTROLLERS & I/O CARDS

IDE I/O Card w/ Cable	$13
IDE/I/O VLB Card w/Cable	28
SCSI Card	50
Promise DC 420 VLB w/512K	105
Promise 4030 VL-II VLB (Exp to 16 MB)	120
Adaptec 1542 CK SCSI w/Kit	240
Adaptec 2842 VESA SCSI	290
Adaptec 2742 EISA SCSI	325

MODEMS

Fax Modem (9600 Fax, 2400 Modem)	$45
Fax Modem (14400 Fax, 14400 Modem)	115

MONITORS

14" Mono Amber	$75
SVGA (1024x768) .39	185
SVGA (1024x768) .28	215
SVGA (1024x768) .28 NI	230
ViewSonic 6E	280
Impression-5 15"	350
ViewSonic-15 15"	440
ViewSonic-7 17"	810
ViewSonic-17 17"	1000
NEC 3FGE/4FGE/5FGE	590/690/1070

VIDEO CARDS

Mono Graphics	$15
VGA 800x600	28
Trident SVGA, 512K RAM	38
Trident SVGA, 1 MB RAM	60
Trident SVGA, 1 MB RAM, VLB	75
Cirrus Logic 1 MB, VLB	70
Orchid Fahrenheit SVGA, 1 MB, VLB	140
Orchid Celsius SVGA, 1 MB VRAM, VLB	190
Diamond Stealth 24/Pro 1MB	140/240
Diamond Viper 2 MB VRAM, VLB Accelerator	360

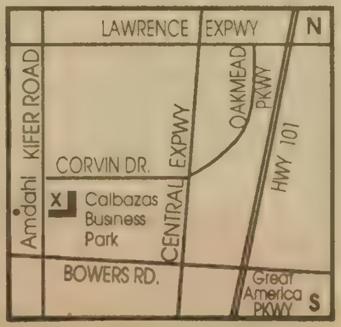
MISCELLANEOUS

Keyboard 101, Mitsumi/Maxiswitch	$22/28
Mouse 3 Button	8
Microsoft Mouse OEM	35
Logitech MouseMan	35
Logitech Trackman	72
230W Power Supply	42
Mini Tower or Desktop Case w/PS	50
Mid/Full Tower Case w/PS	75/99
Colorado Tape Back-Up 250 MB	150
486 CPU Cooling Fan	8
Speakers 80 Watts	65
Speakers 25 Watts	45
RAMs, SIMMs, Others	CALL

(408) 774-9005

3259 KIFER RD.
SANTA CLARA, CA 95051
Fax: (408) 774-9007

- COMPANY, GOVERNMENT EDUCATION, PO's WELCOME
- UPS Shipping Daily
- All Prices And Contents Subject To Change w/o Notice
- Prices Reflect Cash Discount, Terms On Credit Approval
- Not Responsible For Typographic Errors
- 1 Year Parts, 3 Years Labor Warranty



RAINBOW COMPUTERS

M-F: 9-6:30
Sat: 10-4

Quality Leader in the East Bay

5 Year Labor 1 Year Parts Systems Warranty

ECI

Student System 386DX-40 128K

- AMD 386DX-40 W/128K Cache
- 4MB RAM exp. to 32MB
- 1.2 & 1.44 Floppy Drives
- IDE I/O 2FD/2HD 2S,1P,1G
- 127MB Hard Drive
- Trident 1MB SVGA Card
- 1024x768 .28 SVGA Monitor
- Mini-Tower Case w/230W P.S.
- 3-Button Mouse
- Enhanced 101 Keyboard

$859

ECI

Multimedia 486DX-33 256K

- Intel 486DX-33 w/256K Cache
- 2 VESA Local Bus Board
- Toshiba XM-3401 CD-ROM Drive
- Pro Audio Spectrum 16
- Deluxe Speakers
- 4MB RAM exp. to 128MB
- 1.2 & 1.44 Floppy Drive
- IDE I/O 2FD/2HD 2S,1P,1G
- 250MB IDE Hard Drive
- Cirrus Logic VLB SVGA w/1MB Card
- 1024x768 .28 SVGA Monitor
- Medium Tower Case w/230W P.S.
- 3-Button Mouse
- Enhanced 101 Keyboard

DX-33...$1785
DX-50....1929
DX2-66..1979

FAX/MODEMS

US ROBOTICS

Sportster 14.4/14.4 Fax Modem

Internal	$145
External	165

PRACTICAL PERIPHERALS

PM 14.4 Fax Modem Int/Ext	$189/199
PM 14.4 Pocket Fax Modem	Call

INTEL

Intel SatisFAXtion Modem 1400

The Most Advanced Internal 14.4/14.4 Fax/Modem	$269

GVC

24MB/96 Fax Int	$69
14,400 Fax Modem Int	125
2400 Modem Int	39
2400 Modem Ext	59

IBM SLC2-66

- IBM 486 SLC w/Math-Co
- 64K External Cache exp. to 128K
- 2 VESA Local Bus Board
- AMI BIOS
- 4MB RAM exp. 16MB
- 250MB IDE Hard Drive
- Teac 1.2 & 1.44 Floppy Drives
- IDE Controller
- AT I/O 2S/1P/1G
- Cirrus Logic VLB SVGA w/1MB Card
- SVGA .28dp SVGA NI Monitor
- Mini Tower Case
- Enhanced 101 Keyboard
- 3 Button Mouse

Made in USA
Motherboard by IBM

$1159

ECI

Pentium Local Bus System

- Intel 60MHz Pentium Processor
- 16K Internal Cache
- 256K External Cache
- 8MB RAM exp. to 64MB
- Teac 1.2 & 1.44 Floppy Drives
- 345MB IDE Hard Drive
- VLB IDE I/O Controller
- Orchid Celsius VLB SVGA w/2MB VRAM Card
- 15" Flat Screen NI Monitor
- Mid-Tower Case w/250W P.S.
- Enhanced 101 Keyboard
- Serial Mouse

$2695

KEYBOARDS

Maxi 101 Keyboard	$39
Keytronic 101 Key	32
Omni 101 Key	79
Fujitsu 101 Key	59
Focus 9000 129 Key	65
Focus 2001 Click 101 Key	42

TEAC FLOPPY DRIVES

3.5" 1.44MB	$38
5.25" 1.2MB	48

ECI

VESA Local Bus System

- Intel 486DX 33/50/66 Processor
- 256K External Cache
- 4MB RAM exp. 128MB
- 1.2 & 1.44 Floppy Drives
- 250MB IDE Hard Drive
- 2S, 1P, 1G, Controller
- 32-Bit VLB Graphics Accelerator Card w/1MB
- 14" SVGA NI Monitor 1024x768 .28dp
- Mini-Tower Case w/230W P.S.
- Enhanced 101 Keyboard
- 3-Button Serial Mouse

DX-33 ...$1259
DX-50 1399
DX2-66 ..1459

SYSTEMS UPGRADES

Memory Upgrades to 8/16/32	CALL
340MB Hard Disk	Add $49
420MB Hard Drive	Add $103
540MB Hard Drive	Add $209
15" Flat Screen .28 1280x1024 NI	Add $69
15" Viewsonic 15" Flat Screen .28 1280x1024 NI LR	Add $215
15" ADI .28 ADI Flat Screen 1280x1024 NI LR	Add $159
17" Viewsonic V-17 .28 NI LR	Add $695
17" ADI .28 5A 1280x1024 NI LR	Add $489
17" SONY .25 CPD 1730	Add $735

NETWORK CARDS

SMC

Elite Plus 16-Bit TP	$139
Ethercard Plus TP/Thick	129

3COM

Ethernet III TP NIC	119
Ethernet III Coax	139

INTEL

16" Ethernet Coax Network	119
EtherExpress 16TP	129

CASE & POWER SUPPLY

Minitower 200 Watt	$59
Desktop w/200 Watt	69
Mid Tower w/230 Watt	99
Full Tower w/230 Watt	119

ECI

Hi-Performance Intel 486 PCI Local Bus System

- Intel 486DX 33/50/66 Processor
- 256K External Cache
- 8MB RAM exp. to 64MB
- Teac 1.2 & 1.44 Floppy Drives
- 250MB SCSI Hard Drive
- PCI Local Bus SCSI Controller
- AT I/O Card w/2S, 1P
- PCI Local Bus SVGA w/2MB RAM Card
- 14" SVGA NI Monitor 1024x768 .28dp
- Mini-Tower Case w/250W P.S.
- Enhanced 101 Keyboard
- Hi-Res 3-Button Mouse

DX-33 ...$1759
DX-50 1899
DX2-66 ..1945

IBM MOTHERBOARDS

486SLC2-66 VESA LOCAL BUS	$280
486SLC2-33/66 ISA	$259

MICRONICS MOTHERBOARDS

486 DX-33 CPU, VESA Local Bus, 256K	$660
486DX2-66 CPU, VESA Local Bus, 256K	$875
486DX2-66 CPU, JX30 VESA Local Bus, 256K	$925
486DX-33 CPU, EISA VLB, 256K	$845
486DX2-66 CPU, EISA VLB, 256K	$1060

ECI MOTHERBOARDS

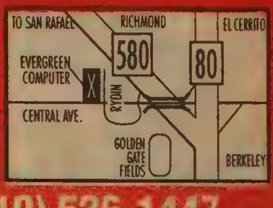
386DX-40 128K w/CPU	$105
386SX-33 w/CPU	$79
486DX-33, DX2-50, DX2-66, 256K Cache VESA Local Bus No CPU	$119
486 PCI Local Bus 256K, No CPU	$235
Pentium PCI 60/66 256K, No CPU	$499

INTERFACE CARDS

AT I/O card 2S/1P/G	$15
Mono graphic/printer	16
Serial/printer/game/clock card	14/14/14/14
IDE HD/FD w/2S IP VLB	39
IDE dual HD/FD cont	14
IDE 4FD/4HD 2S, 1P, 1G SMC	59
SVGA 1024x768 w/1MB VLB	95
SVGA Trident 1024x768 w/1MB	79
SVGA T9000 1024x768 512K	59
STB 4-COM, 4 Serial, 16 bit w/16554 support COM 1-8, IRQ 2,3,4,5, 10,11,12,15	109

EVERGREEN

COMPUTER INTERNATIONAL, INC.
2700 Rydin Road #C, Richmond, CA 94804
(510) 526-8667 FAX (510) 526-1447



Serving You for Over 9 Years!

Hard Disks

MAXTOR

131MB 14ms IDE 7131A	$179
245MB 15ms IDE 7245A	255
340MB 13ms IDE 7345A	285
540MB 8.5ms IDE MXT-540A	425
1.2GB SCSI MXT-12405 256K 8.5ms 3.5"	1219

FUJITSU

525MB IDE/SCSI 11ms M2624T	$509/519
1.0GB SCSI 14ms M2694ES10MS 3.5"	799

CONNER

250MB 14ms IDE CP30254	$225
340MB 13ms IDE CP30344	269
540MB 12ms IDE CP30544	435

WESTERN DIGITAL

213MB 15ms IDE WD2200	$209
250MB 14ms IDE WD2250	229
340MB 12ms IDE WD2340	255
420MB 14ms IDE WD2420	329
540MB 12ms IDE WD 2540	415

QUANTUM

270MB 128K Cache Fast IDE	$229
540MB 11ms IDE LPS 540 AT 128K	425

COMMAX

- Phoenix BIOS
- 9.5" Screen
- Full function keyboard
- Built-in trackball
- Built-in 3.5" FDD
- Docking station interface

SMARTBOOK 486DX/33:

4MB RAM, 120/200 HD, Mono	$1529/1638

SMARTBOOK 486DX2/66:

4MB RAM, 120/200 HD, Mono	$1715/1829
4MB RAM, 120/200 HD, Active Color	$3165/3275

TOSHIBA

T1950 / 486DX2 / 40 / 4MB / 120MB HD	$1949
T1950 / 486DX2 / 40 / 4MB / 200MB HD	2149
T1950CS / COLOR / 4MB / 120MB HD	2549
T1950CS / COLOR / 4MB / 200MB HD	2749
T1950CT / COLOR / 4MB / 120MB HD	2890
T1950CT / COLOR / 4MB / 200MB HD	3199

KENSINGTON® Turbo Mouse 4.0

$99

Microsoft Mouse

Serial Version	$59
PS/2 Version	$89
Bus Version	$79

Central Point PC TOOLS

For DOS **$129**
New! Version 8

The Most Complete Set of Award-Winning PG Utilities
For Windows
Simplify and Protect Your Work In Windows **$129**

Monitors

ViewSonic™

15	15"	1280X1024 .28 NI LR FS	$445
6e	14"	1024x768 .28 NI	268
V17G	17"	1280X1024 .28 NI MAC LR FS	775
V17	17"	1600X1024 .28NI MACII LR FS	935

NEC

15"	3FGE	NI	1024x768 60Hz	28mm	$588
15"	4FGE	NI	1024x768 76Hz	28mm	699
17"	5FGE	NI	1024x768	28mm	1085
21"	6FGP	NI	1280x1024	28mm	2325

SONY.

CPD 1430	14" SVGA .25dpi	$579
CPD 1730	17" SVGA .25dpi	975
GDM2038	20" State-of-the art	2195

SVGA MONITOR

14" SVGA Int 1024x768 .28	$220
14" SVGA NI 1024x768 .28	239
15" SVGA NI FS 1280x1024 .28	309

ADI

4G 15" NI 1280x1024 .28 LR FS	$419
5A 17" NI 1280x1024 .26 LR FS	739

VIDEO CARDS

Orchid Fahrenheit VA or VA/VLB 1MB	$165
Orchid Fahrenheit VLB/ISA	145
Orchid Celsius VLB w/1MB, 2MB	215/265
Diamond Viper VLB 2MB VRAM	359
Diamond Speedstar Pro VLB	119
Diamond Stealth 24VLB/ISA	149

American Power Conversion

INGRAM MICRO

Backup Power Supplies at Great Prices!

BK250B 200-200VA; back-up power for 386SX, 286SX, 286, XT's and AT's	$109
BK450	$199
BK600 Back-up up power for heavily configured 386, 486 systems: CAD/CAM	$269
AP900 Smart-Ups 900 900 VA 286, 386, 486 Servers Multiple systems, Longer runtime	$589

Call for other models!

COLORADO MEMORY SYSTEMS INC.

DJ-10 (120MB) QIC-49	$93
DJ-20 (250MB) QIC-80	139

Trakker™

Parallel Printer Port
External Tape Backup System

120Mb External	$279
250Mb External	$325

CONNER

TAPE STOR 250 MB TAPE BACKUP

INTERNAL	EXTERNAL
RUNS OFF FLOPPY PORT	RUNS OFF FLOPPY PORT
$149	$299

Laser Printer MEMORY!!

	1MB	2MB	3MB	4MB
HPII/IID	N/A	$125	$160	$180
HPIIP/III/IIID/IIIP	N/A	125	160	180
Panasonic KX-P4420	N/A	139	175	189
IBM 4019	109	149	309	N/A
Epson EPL-6000	140	155	190	N/A
Epson EPL-7000	N/A	90	140	N/A
Okidata 400/800	100	150	N/A	N/A
Brother HL-4	130	180	230	280

Printers

HEWLETT PACKARD

DeskJet/DeskWriter Portable 310	$299
DeskJet 500/DeskWriter *300dpi, ink jet*	299
DeskJet/DeskWriter 550C *300dpi color ink jet*	499
DeskJet 1200c *300dpi, 7ppm, color inkjet*	1369
DeskJet 1200c/PostScript	1865
LaserJet 4ML *300 dpi, 4ppm laser, 4MB*	999
LaserJet 4MP *600 dpi, 4ppm laser, 4MB*	1339
LaserJet 4M *600 dpi, 8ppm laser, 6MB*	1895
LaserJet 4L *300 dpi, 4ppm, 1MB*	679
LaserJet 4 *600 dpi, 8ppm, 2MB*	1375
LaserJet 4p *600 dpi, 4ppm, 2MB*	959
LaserJet 4si *600 dpi, 17ppm, 2MB*	2949

Canon

BJ-200e	$299
BJ-230 wide	399
BJC-600 color	589
LBP-430 4ppm laser	589

CITIZEN PRINTERS

GSX-230

- 24-pin printer
- Up to 270cps, 90cps LQ
- 8 Built-in fonts

$239

GSX-240

- 24-pin printer
- Up to 300cps, 99cps LQ
- 13 Built-in fonts, including 2 scalable

$289

GSX-145 • 132 column printer **$359**

Panasonic Office Automation OA

KX-P2123
Quiet 24-pin
Color Capable
43.5 dBA!
$249

KX-P2180
Quiet 9-pin
Color Capable
45 dBA
$179

Color Option $49

KX-P2624	24-pin, 300cps, Free ATM	$399
KX-P2124	24-pin, 300cps, 80col.	329

HP TONER CARTRIDGES

HP 92275A HP IIP, IIP+, IIIP	$69
HP 92295A HP IID, II, III, IVD	75
HP 92291A HP ILsi	119
HP 92298A HP4	99
HP 92274A HP4L	69

PANASONIC TONER CARTRIDGES

KX-P44501, 4450 ACCESSORIES

Toner KX-P450	$39
Developer KX-PDP1	109
Drum KX-PDM1	139

KX-P4420 ACCESSORIES

Toner KX-P451	$39
Developer KX-PDP2	109
Drum KX-PDM2	109

KX-P4410/4430 ACCESSORIES

Toner KX-P453	$39
Developer KX-PDP4	119
Drum KX-PDM4	69
Extra Cassette KX-PKC2	45

[illegible]

VISA MasterCard

EVERGREEN COMPUTERS INT. (510) 526-8667

Best Prices On CD-ROM & Multimedia

CD-ROM DRIVES

CD-ROM Drives

• Panasonic 562 (Matsushita) AT

320ms Access Time, 300KB Transfer Rate, Photo-CD Compatible

Internal Drive	$195
External Kit For Panasonic 522/532/562	$60

• Mitsumi MPC CD-ROM FX001D

250ms Access Time, 300KB Transfer Rate, Photo-CD Compatible, Caddyless

Internal Drive	$175

• TOSHIBA XM-3401 SCSI

Fastest CD-ROM, 200ms Access Time, 300KB Transfer, Multi-Spin, Free Caddy

Internal Drive	$326
• Trantor Interface Kit	$79
• Audio Cables	$6.50

NEC SCSI CD ROMS

New Triple Speed:

3Xi Internal 450KB/sec, 190ms	$385
3Xe External 450KB/sec, 190ms	$588
3Xp Portable 450KB/sec, 240ms	$425

Performance Upgrade Kit

Toshiba 3401 Fast SCSI CD-ROM
"200MS Double Speed Photo-ready"
Mediavision Pro 16-Bit • Amplified Stereo Speakers
Compton's Encyclopedia MPC • Kodak Photo Access CD
Carmen Sandiego Deluxe Version • Microsoft Bookshelf

$589

Publishers Upgrade Kit

Panasonic 562 AT-BUS CD-ROM
"340MS Double Speed Photo-ready!"
Soundblaster Pro II & Speakers
Publish It! 2.0 • Microsoft Works MPC
Clipart Heaven • Font Master Vol.1

$429

Family Upgrade Kit

Mitsumi MPX CD-ROM FX001D
250ms Access Time, 300KB Transfer Rate Double Speed

SOUND MAN 16

Amplified Stereo Speakers • Compton's Encyclopedia MPC
Arthur's Teacher Trouble • San Diego Zoo/Animals

$389

Creative Labs SB

Sound Blaster Pro Deluxe	$109
Sound Blaster 16 Basic	$129
Sound Blaster 16 SCSI 2/with ASP	$185/$205
Sound Blaster 16 Multi CD/with ASP	$165/$195

LOGITECH **SOUND MAN 16**

Advanced 20 Voice Stereo Synthesizer
16-Bit

$99

MEDIA VISION

PRO AUDIO SPECTRUM 16

- True Stereo Sound
- Advance 20 Voice Stereo Synthesizer
- MIDI Interface

$105

PRO AUDIO STUDIO 16

- Above with Voice Recognition
- Microphone & Software

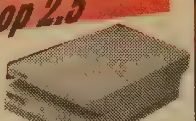
$149

GRAPHICS

Award Winning PC and MAC Scanner with your choice of software:

Publisher
Photostyler
Photoshop 2.5

TAMARACK



Professional Flatbed Color Scanner 600dpi, 24 Bit
Optional SKT Slide Scanner

ArtiScan™ from Tamarack gives you state-of-the-art resolution and impeccable image quality, 600 dpi, 24 bit per pixel (16 million colors and 256 gray levels). Supports both the PC and the Macintosh. SCSI interface for fast operation.

-w. Publisher 600/800/1200 dpi	$645/$745/$1019
-w. Photostyler 600/800/1200 dpi	$779/$889/$1149
-w. Photoshop 2.5 600/800/1200	$779/$889/$1149

DIGITIZERS

Summagraphics

Summasketch III NEW 12"x12" 4-Button Cursor	$289
Summasketch III NEW 12"x18" Pro 4-Button Cursor	$539

IN STOCK

Acecad 5"x5" GRAPHICS TABLET

5"x5" Active Area–Includes 2-Button Stylus-Pen and Utilities Diskette with Custom Mouse,Windows, ADI Drivers, and Windows control panel program.

$119

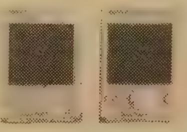
ScanMan model 256 & Ansel™ Hand-Held Scanner

LOGITECH

ScanMan 256	$159
ScanManColor w/Omni Page 16.8 Million Colors	$439
ScanMan 256 w/Omni Page	$199
• Serial Mouseman 400dpi	$69
• Bus Mouseman 400dpi	69
• Cordless Mouseman 400dpi	99
• Serial TRACKMAN	89
• First Mouse	39
• Trackman Portable	99

SPEAKERS

Labtec



CS 150 Amplified Speakers	$19
CS 550 Amplified Speakers	25
CS 700 Amplified Speakers	34
CS 900 2-Way Stereo Speakers	69

ADULT TITLES

Must be 18 or older to purchase

BUY ANY 3 CD'S FOR $99

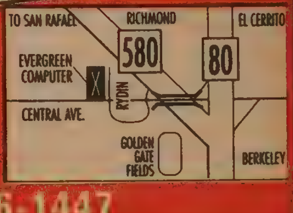
101 Sex Positions Vol 1	39
101 Sex Positions Vol 2	29
Adult Palate	39
After Dark Trilogy	39
All Beauties	39
American Girls	39
Bustin Out	39
Busty Babes Vol 2	39
Digital Dancing Interactive	39
Digital Dreams	39
Dirty Talk	39
Ecstasy Hot Pix	39
Foxes	39
Girls of J. Stephen Hicks	39
Girls of Vivid Vol. 1	39
Girls of Vivid Vol. 2	39
High Volume Nudes	39
House of Sleeping Beauty	39
LA Strippers	39
Legend of Kamasutra	39
Legends of Porn	39
Lovely Ladies	39
Mystic of the Orient	39
New Machine Sampler	39
New Wave Hookers	39
Night Watch Interactive	39
Pacific Rim Fire	39
Phone Sex - Windows	39
Photo Group 1	39
Physical Therapy	39
Q69	39
Southern Beauties	39
Super Smutware	39
Tracy Lords I Love You	39
Volcano	39
Wild Women	39

CD-ROM TITLES

Adventure of Willy Beamish	$19
Adventures in Heaven	19
AmerBus Phone Directory 1993	19
American Vista	35
Animals Encyclopedia	35
Arcade Battles	19
Arthur's Teacher Trouble	24
Audubon Birds	19
Audubon Mammals	19
Barney Bear Goes to School	19
Barney Bear Goes to Space	19
Barron's College Guide	19
Battle Chess Enhanced	19
Beauty and the Beast	19
Bible Library by King James	24
Bibles and Religion	19
Brain Drain	19
Bus & Econ World Atlas	19
Business Background	19
Business Master	19
California Collection	19
Career Opportunities	29
Carmen San Diego Deluxe	19
Chaos and Fractules	29
Chess Maniac	45
Chessmaster 3000 MPC	19
CICA Windows	19
Clip Art Heaven	19
Clipart Goliath	19
Complete Bookshop	19
Composer Quest	24
Consumer Information	29
Cookbook Heaven	19
Cookbook: John Schumacher's	29
Crossword Craakker	24
Dagger of Ammon Ra	24
Desert Storm	19
Dictionary of the Living World	24
Dr Fun Pak	19
Dr Games for Windows	19
Dr Games Vol 1	19
Dr Music Vol 1	19
Dr Shareware Vol 1	19
Dr Windows Vol 1	19
Dune	24
EcoQuest	24
Education Master	24
Electronic Home Library	24
Electronic Library of Art VI	24
Elvis Karaoke	24
European Monarch	29
European Racer by Revell	35
F117A Sealth Fighter	29
Family Choice	24
Family Doctor MPC	24
Family Education Collection	19
Font Master I	19
Font Master II	24
Font Funhouse	29
Fractools	29
Fresh Arte	29
Fun House	19
Futura Fames	19
Game Pak I	19
Game Pak II	19
Games Expert for Windows	14
GIFS Galore	19
Great Cities Vol 1 & 2 -1 disc	19
Great Wonders of the World	19
Guiness Disc 1993 MPC	19
Gunship 2000	29
Guy Spy	24
Hacker Chronicles	24
Ham Radio QRZ!	19
Indiana Jones Fate Atlantis	45
Jones in the Fast Lane	19
Just Grandma & Me	24
KGB World Fact Book	29
Killer Track CD - Music Lib	19
King's Quest VI	24
Kodak Photo Access	19
Learning Heaven	19
Legend of Kyrandia	29
Let's Play	19
Library of the Future - 1st	39
LOOM	19
MacMillan Dictionary	24
Manhole	24
Maniac Mansion	49
Mantis Experimental Fighter	19
Mario's Missing/World Atlas	19
Mavis Beacon Typing 2.0 MPC	19
Mayo Clinic Family Health Bk	19
Media Clips - 4 pak	30
Mirror Mirror	19
Mixedup Mother Goose	19
Money, Money, Money	19
Monkey Island - English	19
Nat'l Geographic Mammals	24
National Parks	24
North American Fax Book	29
North American Indians	29
Ocean Digital Imagery Vol 1	24
Oceans Below	19
Officer's Bookcase	29
Oldies But Goodies	19
OS/2 Archives	19
Our Solar System	19
PC SIG 12 Shareware	24
Peter and the Wolf	19
Phoenix 4.0 Shareware	19
Plant Doctor	29
Playing w/Languages - English	19
Playing w/Languages - French	19
Playing w/Languages - German	19
Playing w/Lang. - Japanese	19
Palying w/Languages - Spanish	19
Power Pak Gold	24
Prescription Drugs	29
Programmer's ROM	29
Publique Art	29
Publish It! 2.0	19
Publisher's Paradise	24
Publisher's Power House	24
Rebel Assault	34
Reference Library by STW	19
Return to Zork	24
Roger Ebert's Movie Companion	29
San Diego Zoo/Animals!	19
Secret Weapon of Luftwaffe	19
Seventh Guest	65
SFX-300 Sound Effects	19
Shakespeare	24
Shareware Heaven	19
Simtel MS DOS Shareware	19
Sleeping Beauty	19
So Much Screenware II	29
So Much Shareware III	19
Sound Library	19
Space Adventure	19
Space Quest IV	19
Space Series Apollo	19
Star Wars Chess	29
Stellar Seven	19
Storytime	19
Straight From Heaven	19
Struck by Light	24
STW 4 Title Pack	24
STW Grolier's Encyclopedia MPC	24
STW Grolier's Encyclopedia v6.0	35
Super Clipart	19
Super Fonts	19
Super Games For DOS	15
Super Games for Windows	15
Super Programmer	19
Super Shareware Library	19
Super Shareware Library II	19
Swimwear 1993	24
Tempra Photo Access S/W	19
Terrorist Group Profiles	29
Time Table of History/Science	24
Total Baseball	19
US Atlas	19
US Atlas of Presidents	24
US History	19
US Presidents	29
US World Atlas Pack	19
Variety Store	19
VGA Spectrum	19
VGA Spectrum 2	24
Who Killed Sam Rupert	19
Wild Places	19
Windows Platinum	22
Wing Commander/Ultima VI	19
Wiz-Pak Shareware	19
Wizard Test and Tune Up	19
Women of Venus	24
World Atlas MPC v4.0	22
World of Flight	29
World of Trains	29
World View	19
World Vista	29

EVERGREEN

COMPUTER INTERNATIONAL, INC.
2700 Rydin Road #C, Richmond, CA 94804
(510) 526-8667 FAX (510) 526-1447



Under The Hood: cont.

continued from page 164

wandering into your PC.

But now consider that you're creating this electronic universe at a higher level of sophistication, with agents and places and services programmatically accessible. So now you've got to wonder whether there's a higher level kind of virus, a new kind of virus that involves my agent interfering with your agent, or my agent going into an infinite loop in the AT&T computer and sucking it dry of cycles and never really doing anything useful.

There you cannot say things as concretely as I've been saying it at this point. I cannot say that it's impossible to have one of these higher-level viruses, because the problem is you can't say exactly what a higher-level virus is. You can't say what interference means in any precise way, because in many cases your agent and my agent want to be able to find each other and network and interact.

If you have a used car to sell, and I'm interested in a used car of that variety, then if my buying agent could only find your selling agent we'd have a transaction. Of course Telescript has features in it, instructions that allow two agents under certain conditions to find each other and encounter each other and interact with each other—in that example you wouldn't call the interactions an interference. However, if you were sending an agent to an airline ticketing service with the intention of interacting only with that ticketing agent, and somehow I were to send my agent into the same ticketing place and somehow strike up an unwanted conversation with you and delay you, that could be considered interference. The problem is it's very difficult to say, from a tactical standpoint, what's the difference between those two cases.

You can't really say there's no such thing as a higher-level Telescript virus. What you can say is that in Telescript we've thought through what we think are the most important issues like that, kind of safety issues, and we built into the language instructions that are essentially tools that you can use when you're writing an agent, to provide whatever protection you think is appropriate.

So, for example, in this case of agents meeting with each other and interfering, my agent can't meet your agent unless your agent agrees to it. If I attempt to do so, the Telescript engine would say, "Hey, there's some agent with the following name who's trying to make contact with you. Are you interested?" And you can be programmed to always say no to that. There are many tools of this sort in Telescript.

An agent has two things that are really quite important in the safety area. One is the name, who's doing it. The other is the permit—the permit tells what the agent is capable of doing in certain critical dimensions, one of which is how long the agent is allowed to exist. Another is how much money the agent is allowed to spend by its computation. The third is how chubby the agent is allowed to get—measured in bytes, how big can that agent be? And one or two others.

When you create the agent, you specify these things—this is a ten-minute agent, it can grow to be 3000 bytes long and no longer, and so on and so forth. And then all of the Telescript engines in the network that might be hosting that agent at any given moment pay attention to those.

The creator of the agent sets the permit initially. But then furthermore when the agent attempts to move around in the network from place to place, the place it's attempting to enter can say, "Yeah, I'd be happy for you to enter; however, while you're here, you have to limit your capabilities to such-and-such." Maybe it's a one-hour agent, but for the privilege of entering the AT&T PersonalLink part of the network, it only is allowed five minutes and then it has to leave. Or if it hasn't left, it's killed.

If you're operating a service that's going to provide resources to my agent for a period of time, then you have a right to have a say what resources you're going to give to that agent of mine. Because if I'm a malicious user, I might say, "This agent is a one-week agent, and it can get to be 10GB," because I'm deliberately trying to kill the network, that's unsuccessful because the network clamps down on the agent before it happens.

It's not possible to be anonymous, but what about being private? Can people track your agents as they go about their business? Or eavesdrop on the contents of your messages?

There's several aspects to your question.

About eavesdropping on the agents as they're flitting about—as part of our cryptographic security, we also encrypt the agent while it's in transition, using a hybrid scheme involving RSA and DES. It's generally regarded in the industry as computationally too expensive to encrypt large pieces of information in RSA, so you almost have to use someting like DES. You use a hybrid algorithm involving the two schemes.

In transit, while your agent is sleeping, if you were able to tap the line that's carrying the bits, you couldn't make heads or tails in it.

And the same with intercepting wireless transmissions?

Right, exactly the same. That's especially important for wireless. Most people would take the integrity of the phone network for granted, for average uses. But nobody probably should take the integrity of the airwaves for granted.

The issue of monitoring where you shop, what places you're visiting—you can't write an agent that will do that, unless the agents that it's attempting to monitor are deliberately allowing themselves to be monitored. So that same mechanism I was describing, where your agent could avoid interference with my agent, that avoidance of interference goes so far as I can't even tell that your agent is there. So I'd be invisible.

I couldn't write a Telescript agent that would go monitor the activities of all the agents.

Obviously, the place in the network that you're visiting, that you engage in the dialogue with—obviously it can track you, just as the real L.L. Bean can track you when you go into a physical store.

So if you were a hardware or software developer thinking about incorporating Telescript into your products, what do you have to do?

At the moment, there's two cases. One is you're developing for Magic Cap, and that's the way you're doing access to the Telescript technology. That's easier than the other way today, which is to go on some other machine and supply your own user interface. That's kind of a temporary state of affairs, based on the fact that we developed an operating system and a user interface that's Telescript-savvy, the only one today for which that's true.

If you're building for some other platform, then you'd have a tougher go of it, because we don't have all the support structures in place as yet that would help you to develop your Telescript applications.

And also the range of platforms on which Telescript is presently available is very limited. Magic Cap obviously. It's available on various flavors of UNIX, it's not yet available on Windows. We've already done it also on the Macintosh, but we haven't yet productized that. I would say it'll be the fall of this year before we have a pretty good act on these various other platforms.

So for the moment you have to be kind of a pioneering spirit developer, because you won't find the development environment is of the same caliber as it is for a very mature programming language.

It's not like going to Egghead and buying a copy of Microsoft C.

[*laughs*] One of these days hopefully it will be, but it wouldn't be fair to say today that it is. ■

BEST VALUE SYSTEM SUPER DEALS!

COMPLETE 486 MULTIMEDIA SYSTEM SALE!!!

$1195 486SX-25 4MB/250MB w/Monitor

- Intel 486 CPU
- Solutions 486 motherboard
- 4MB RAM exp. to 32MB
- IDE Hard Disk 250/340/420MB
- TEAC 1.44MB floppy drive
- SVGA Monitor 1024x768 .28dp
- SVGA graphics card
- 101 keyboard
- Mini tower case
- 2 serial, 1 parallel, 1 game ports
- Serial mouse
- Double Speed CD ROM
- Deluxe Sound Card/Speakers
- 5 CD Titles

	250MB	340MB	420MB
486SX-25	$1195	$1245	$1295
486DX-33	1395	1445	1495
486SLC2-66	1495	1545	1595
486DX2-66	1595	1645	1695

VESA Local Bus Systems

Loaded w/256k cache, 32bit VLB Video Graphics & VLB IDE I/O

$1195 486DX-33 4MB/250MB w/Monitor

- VLB 486-33/66 w/256k cache
- Intel CPU
- 4MB RAM exp. to 32MB
- SVGA 1024x768 Monitor .28dp
- VLB Graphics Card w/1MB
- VLB IDE I/O 2 S, 1 P, 1 G
- 250/340/420MB HD
- TEAC 1.44MB FD
- Mini Tower Case
- 101 Keyboard
- Serial Mouse

	250MB	340MB	420MB
VLB 486DX-33	$1195	$1245	$1295
VLB 486DX2-66	1395	1445	1495

IBM 486-66 VLB

$1295 486-66 4MB/420MB w/Monitor

- IBM 486SLC2-66 VLB w/64k
- 4MB RAM
- SVGA 1024x768 Monitor .28dp
- VLB Graphics Card w/1MB
- VLB IDE I/O 2 S, 1 P, 1 G
- 250/340/420MB HD
- TEAC 1.44MB FD
- Mini Tower Case
- 101 Keyboard
- Serial Mouse

	250MB	340MB	420MB
486SLC2-66	1195	1245	1295

SPECIAL DEALS!!

486 VLB Motherboard No CPU Ok	$75
256k Cache Memory	$35
Special w/purchase of Motherboard	
Conner 250MB HD	$195
Conner 420MB HD	295

TOSHIBA
3401B CD ROM
Pro Audio Spectrum 16
& Labtec Speakers
$495

TEAC
CD-50 CD ROM
Pro Audio Spectrum 16
& Labtec Speakers
$445

Alaris 486-66 IBM CPU Ok	$265
Math Co-processor	$45
Special w/purchase of Motherboard	
Conner 420MB HD	$295

Flicker Free Monitor
VESA 72Hz, 14" Non-Inter
$245

MOZART
True 16bit Sound Card
$99

STANFORD
EL CAMINO REAL
COWPER
TASSO
WEBSTER
101
UNIVERSITY
FREE PARKING

540 University
Palo Alto

Open Sunday 12-5

415/473-9050

Hours: M-F 10-7 • Sat 10-5

newriver PERIPHERALS

Price & Availability subject to change w/o notice.
No surcharge for credit cards.
Not responsible for typos.
All items brand new w/ manufacturer's warranty.
All brands are registered trademarks

VISA MasterCard

Fremont	510/623-9125
Santa Clara	408/980-0669
So. San Fran.	415/952-5897
Sunnyvale	408/738-8297

Hours:
M-F 9-6 • Sat 10-5 • Sunnyvale closed Sat.

MULTIMEDIA SYSTEM
486-66MHz
VESA LOCAL BUS

- IBM-Alaris 486SCL2-66/64K
- 4MB RAM, 70ns
- VLB Graphics Card w/1MB
- 14" SVGA Monitor .28dp, 1024x768
- VLB IDE I/O, 2 S, 1 P, 1 G Ports
- 250MB Hard Disk
- TEAC 1.44MB Floppy Disk
- Mini Tower Case
- 101 Keyboard • Serial Mouse
- Dbl. Speed CD ROM 250ms/350kb
- Deluxe Sound Card
- 5 CD Titles

$1399

Don't Miss This One! Limited Special!

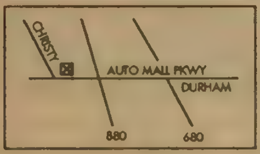
CD ROM TITLES
$8.95 ea.

- 16bit Sound Masterpiece
- Learn DOS for Fun • Family Fun
- 14,000 Multimedia Pkg. Collection
- TOP 101 Multimedia Shareware '93
- Art History Encyclopedia
- Image Library II • Compufix
- MIDI & Wave Music Workshop
- Windows - 50 Games
- • • & Much More, Please call or visit for complete CD ROM Titles Listing

Dble Speed CD ROM
250ms, 350kb/sec
Mitsumi FX001B
$168

HARD DISK
250MB IDE **$194**

FAX MODEMS
14.4i S/R Fax, 14.4 Modem	$98
14.4ext S/R Fax, 14.4 Modem	$138
9600 S/R Fax, 2400 Md, Voice Mail	$88



FREMONT • 43102 Christy
510/623-9125
Hours: M-F 9-6 • Sat 10-5

newriver
PERIPHERALS

Price & Availability subject to change w/o notice.
No surcharge for credit cards.
Not responsible for typos.
All items brand new w/ manufacturer's warranty.
All brands are registered trademarks

VISA

Palo Alto - 415/473-9050
Santa Clara - 408/980-0669
So. San Fran. - 415/952-5897
Sunnyvale - 408/738-8297

Hours: Palo Alto only Sun. 12-5
M-F 9-6 • Sat 10-5 • Sunnyvale closed Sat.

continued from page 14

DX2s but no DX4s, or do you go with another who has DX4s but only one or two Pentiums? If you are buying a 486SX-class desktop computer, do you use the new Intel chips or those made by Intel's very worthy competitors?

A year from now, it is likely that the market will have weeded out some of the in-between processors, but until then PC buyers will be forced to make more difficult choices.

CD-ROMS: NOT JUST FOR MULTIMEDIA ANYMORE

Apple may have unwittingly created a new software distribution market five years ago when it started touting CD-ROMs and multimedia as the next big thing. Flush with its success at making desktop publishing a household word, Apple tried to get everyone to buy a CD-ROM player to watch and create interactive video.

CD-ROM's failure to produce even marginal video is now well known: you can really only sustain partial-screen video from most CD-ROM players, and even then the result is jerky.

However, millions of computer users have bought (and are still buying) CD-ROM players, based mostly on the false hope of video on their computer monitor. With all those CD-ROM players out there and not doing much, many companies are starting to take advantage of CD-ROMs for a somewhat different purpose: distributing regular software and other material. At the same time as people were buying CD-ROM drives under somewhat false pretenses, another phenomenon was happening in parallel: software (particularly Windows software) was getting bigger.

A few years ago, programs that took up ten or fifteen diskettes were laughed at, except by the people who had to tediously insert each one to install the new program. Now that CD-ROM drives are more common and the price of making even small pressings of CD-ROMs is quite low, many companies are offering their software on CD-ROMs instead of diskettes; some even offer discounts. For example, most popular PC-based flavors of UNIX come on CD-ROM as well as diskettes. Companies like BSDI even offer a $50 discount for buying their UNIX on CD-ROM.

Many mainstream software companies are going to CD-ROM as well. For example, Corel has recently lowered its prices on the CD-ROM-based versions of its software. The popular CorelDraw v4 has a suggested retail price of $600 for the diskette version, but $400 for the CD-ROM version. The same pricing is expected to be in place for CorelDraw v5, expected out in May of this year. Corel's Ventura page-layout programs is $250 on diskette, and $200 on CD-ROM.

At the same time, there is a mini-boom in distributing software on CD-ROM by many retailers. Apple was the first out of the gate with its Software Dispatch CD-ROM, and many large retailers and mail-order companies are now releasing similar products. With these packages, you get the CD-ROM for free or for a small price, and you unlock individual programs on the CD by calling an 800 number and buying the software with your credit card. Of course, the CD-ROM vendors only include software that the manufacturers allow.

Some customers have been a bit disappointed with the limited range of software on the disks, while others enjoy the ability of trying out preview versions before purchasing. For instance, on the Apple CD-ROM, some programs let you run them a few times before you buy, while others only let you run a crippled demonstration version of the software. The documentation is only available online, another disadvantage for many people. This system of software distribution has been most popular for font vendors, who include hundreds of fonts on a single CD-ROM. ■

LOOK NO FURTHER...
WE HAVE EVERYTHING YOU'RE LOOKING FOR–CALL AND BE AMAZED!

AT PORTABLE COMPUTER CENTER WE ARE ABLE TO CUSTOM BUILD ANY DESKTOP CONFIGURATIONS INTO OUR PORTABLES TO SUIT YOUR NEED. PLEASE CALL FOR OPTIONS LIKE INTERNAL CD ROM, TAPE BACKUP SYSTEM, UP TO ONE GIGABYTE IDE, ESDI, OR SCSI HARD DISKS.

HI CONTRAST VGA PLASMA PORTABLE
- 4 MB Memory (Expandable To 32 MB)
- 1.2 MB & 1.44 MB Floppy Disk
- 210 MB IDE (13ms) HD
- SVGA Card w/1 MB Win Accl.
- 2 Serial/1 Parallel Ports
- 200 Watt PS/110/220 V
- Plasma Display On/Off Switch
- External Display Up To (1280 x 1024)
- 3 Free Slots/Deluxe Carrying Bag

150:1 RATIO 101 KEY

- 486DX2-66 w/256K CACHE $2345
- 486DX-50 w/256K CACHE............................2245
- 486DX-33 w/256K CACHE............................2075
- 486SX-33 w/256K CACHE............................1994
- 386DX-40 w/128K CACHE............................1845

SUPER VGA COLOR CRT PORTABLE
- 4 MB RAM (Up To 32 MB)
- 210 MB IDE (13ms) HD
- 1.2 MB & 1.44 MB Floppy
- 2 Serial/Parallel Ports
- 3 Drive Bays
- 4 Free Slots
- Deluxe Carrying Bag
- SVGA Card w/1 MB (16 Million Colors)

1024 X 768 9.5"

- 486DX2-66 MHz w/256K CACHE.$2495
- 486DX-50 MHz w/256K CACHE.......2395
- 486DX-33 MHz w/256K CACHE.......2195
- 486SX-33 MHz w/256K CACHE........2095

SONY 10" TRINITRON 26mm CRT PORTABLE $CALL

ALL PORTABLES AVAILABLE IN EISA, EISA LOCAL BUS, ISA VESA LOCAL BUS & MULTIMEDIA OPTIONS!

VGA PAPER WHITE LCD LUNCHBOX PORTABLE PORTABLE (COLOR LCD ...$CALL)
- 486DX2-66 w/256K CACHE......................$1945
- 486DX-50 w/256K CACHE..........................1845
- 486DX-33 w/256K CACHE..........................1695
- 486SX-33w/256K CACHE...........................1595
- 386DX-40 w/128K CACHE..........................1445

- 4 MB RAM (exp 32 MB)
- 210 MB IDE Hard Drive
- 1.2 & 1.44 Floppies
- 2 Serial/Parallel Ports
- 3 Free Slots
- Support External Color Display
- Deluxe Carrying Bag

DESKTOP MONTHLY SPECIAL
PENTIUM 60 MHz 512K............ $CALL
486DX2-66 MHz 256K..............CALL
486DX-50 MHz 256K................CALL
486DX-33 MHz 256K................CALL
386DX-40 MHz 128K................CALL

ALL SYSTEMS ABOVE INCLUDE:
- 4 MB RAM
- 212 MB IDE H. Disk (13ms)
- Teac 1.2 MB and 1.44 MB Floppies
- SVGA Monitor (1024x768 .28 dpi) Full Screen
- SVGA Video Card w/1 MB
- IDE 2HD/2FD Controller
- 2 Serial/Parallel/Game Port
- Enhanced 101 Keyboard
- Mini Tower or Desktop Case

★ FREE 3-Button Mouse & Gift

UPGRADE ADD:
256K Cache.........................$20
250 MB Hard Drive...............20
345 MB Hard Drive...............70
Non-Interlace Monitor..........20

PLEASE CALL FOR:
Other Configurations
System Upgrade/Repair
Hardware/Software Installation
PRICES SUBJECT TO CHANGE W/O NOTICE
PRICES REFLECT CASH DISCOUNT

LCD Color Lunchbox Portable Dual Scan $CALL

DRIVES/CONTROLLERS
Toshiba CD-ROM 200MS..................$355
W.D. 540MB IDE H. Disk....................435
W.D. 420MB IDE H. Disk....................315
W.D. 340MB IDE H. Disk....................265
W.D. 250MB IDE H. Disk....................225
W.D. 210MB IDE H. Disk....................200
Panasonic Dual Speed CD-ROM...........169
Toshiba 3401B Double Speed CD-ROM....355
NEC CDR-500 CD-ROM.......................495
Adaptec 1542CF w/kit........................245
Adaptec 2842VL w/kit........................285
Promise DC4030VLw/kit.....................145

ALL-IN-ONE LAN PC WORKSTATION 386SX-25 PAPER WHITE OR SVGA
$CALL

VIDEO CARDS/FAX MODEM
Diamond Viper VLB w/2 MB..............$365
Diamond Stealth VLB w/1 MB.............155
Diamond Stealth ISA w/1 MB..............155
Genoa Win Accl VLB/1 MB (exp 2 MB)109
SVGA VLB w/1 MB Win Accl.................79
SVGA ISA w/1 MB Win Accl..................59
14.4/14.4 Fax Modem.......................125
9600/2400 Fax Modem.........................45

MONITORS
SVGA 14" (1024x768 .28) Full Screen.......$229
SVGA 14" (1024x768 .28) NI Full Screen.....245
SVGA 15" (1280x1024 .28) NI Full Screen...395
SVGA 17" (1280x1024 .26) NI Full Screen...765
NEC 4FGP 15" (1280 x 1024 .28) NI..........695
NEC 5FGP 17" (1280 x 1024) NI...............1295
NEC 6FGP 21" (1280 x 1024) NI...............2395

DEALER PRICING & QUANTITY PRICING AVAILABLE
STORAGE SYSTEM ENGINEERING SERVICE
3350 Scott Blvd., Building 19, Suite 1902 (near Bowers Ave.)
Santa Clara, CA 95054

S F
Lawrence Expwy
S F
Central Expwy
Scott Blvd
Bowers
San Tomas
N
S J
S J

408-727-6040
FAX: 408-727-6042
Hours: 10am-6:30pm M-F
12 noon-4:00pm Sat

MasterCard VISA

YOUR SOURCE FOR RELIABLE COMPUTERS & PERIPHERALS SINCE 1983

GOLDEN VALLEY SYSTEMS

1030 E. DUANE AVE. STE. #J
SUNNYVALE, CA 94539
TEL: (408) 738-4921
FAX: (408) 738-4924

ISA SYSTEMS

- *Intel 80386/80486 CPU 256K Cache On Board
- *4 MB RAM Upgradable to 32 MB
- *250 MB IDE Hard Drive
- *1.2 MB & 1.44 MB Floppy Drives
- *2F/2H IDE Controller
- *2 Serial/1 Parallel/1 Game Ports
- *Super VGA Adapter w/1 MB
- *14" NI .28 1024x768 SVGA Monitor
- *Mini-Tower Case w/230W PS
- *101 Enhanced Keyboard
- *Hi-Res Serial Mouse

486DX2-66/256K	**$1319**
486DX-50/256K	**$1269**
486DX-33/256K	**$1119**
386DX-40/128K/170 MB HDD	**$869**
386SX-33/170 MB HDD	**$829**

VESA SYSTEMS

- *Intel 80486 CPU 256K Cache On Board, Pentium Overdrive Ready
- *Two/Three 32-Bit VLB Slots
- *4 MB RAM Upgradable to 32 MB
- *250 MB IDE Hard Drive
- *1.2 MB & 1.44 MB Floppy Drive
- *2F/2H 32 Bit VLB IDE Controller
- *2 Serial/1 Parallel/1 Game Ports
- *32 Bit VLB SVGA Accelerator w/1 MB
- *14" NI .28 1024x768 SVGA Monitor
- *Mini-Tower Case w/230W PS
- *101 Enhanced Keyboard
- *Hi-Res Serial Mouse

486DX2-66/256K VESA	**$1379**
486DX-50/256K VESA	**$1329**
486DX-33/256K VESA	**$1179**

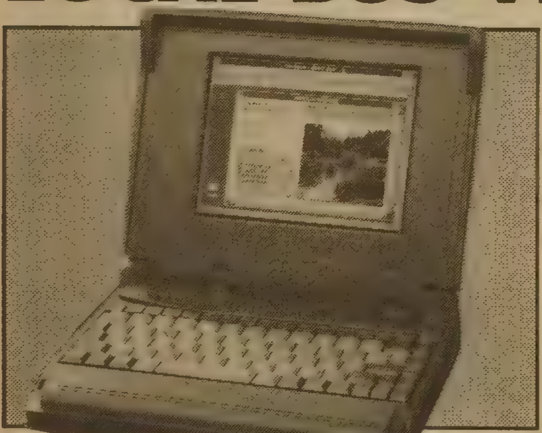
MULTI-MEDIA & VESA SYSTEMS

- *Intel 80486 CPU 256K Cache On Board, Pentium Overdrive Ready
- *Two/Three 32-Bit VLB Slots
- *4 MB RAM Upgradable to 32 MB
- *250 MB IDE Hard Drive
- *1.2 MB & 1.44 MB Floppy Drives
- *2F/2H 32 Bit VLB IDE Controller
- *2 Serial/1 Parallel/1 Game Ports
- *32 Bit VLB SVGA Accelerator w/1 MB
- *14" NI :28 1024x768 SVGA Monitor
- *Double Speed CD-ROM Drive (Access Time 320ms)
- *Sound Blaster Compatible Sound Card w/Speakers
- *Mini-Tower Case w/230W PS

486DX2-66/256K VESA	**$1619**
486DX-50/256K VESA	**$1569**
486DX-33/256K VESA	**$1419**

LOCAL BUS VIDEO DISPLAY PLUS PCMCIA

CREATES AN UNBEATABLE POWER BOOK!

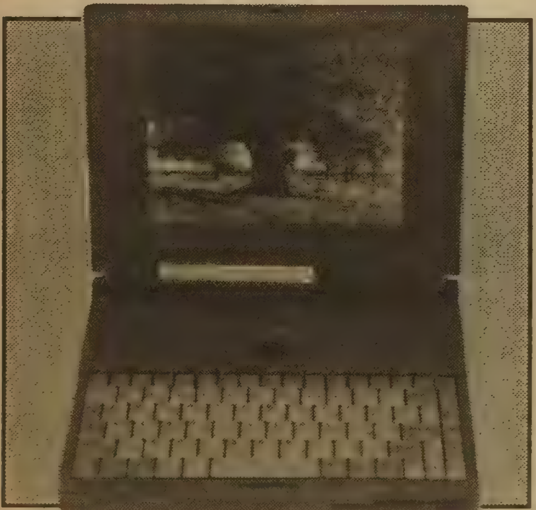


KP 8200 NOTEBOOK SERIES:

- *128K Cache On Board
- *Local Bus Video Display
- *486DX-33/486DX2-66 CPU
- *4 MB RAM Expandable to 20 MB
- *120 MB HD (200 MB Optional)
- *3.5" 1.44 MB Floppy Drives
- *9.5" Mono, Dual Scan Color, or Active Color Display Screens
- *Simultaneous Scan for LCD & CRT
- *Built-In Trackball
- *PCMCIA Type III Slot
- *Ports for 1S/1P Ext. KB, VGA Monitor & 200 Pin Connector For Docking Station
- *Enhanced 86-Key Keyboard
- *Intelligent Power Management System
- *Long Operation Time, Color: 2.5 Hrs., Mono 3.0 Hrs
- *Carrying Bag & AC Adapter
- *Weight 6.6 Lbs. (With Battery)
- *11" (W) x 8.6" (D) x 2" (H)

120 MB HD	MONO	COLOR DUAL SCAN	COLOR ACTIVE SCAN
486DX-33	$1780	$2340	$3420
486DX2-66	$1970	$2530	$3610

IT'S A SMART WAY TO BUY A SMARTBOOK



FT2000 SMARTBOOK SERIES:

- *Intel SX-25/SX-33/DX-33 CPU
- *4 MB RAM Expandable to 20 MB
- *120 MB HD (200 MB Optional)
- *1.44 MB Floppy Drive
- *Built-In Trackball (16mm)
- *1 Serial/1 Parallel Port, KB Port, Mono VGA Port
- *9.5" Display, Mono, Dual Scan Color or Active Color
- *84/5 Keys with 12 Function Keys
- *Carrying Bag & AC Adapter

120 MB HDD	MONO	COLOR DUAL SCAN
486SX-25	$1350	$2010
486SX-33	$1390	$2050
486DX-33	$1540	$2200

TERMS & CONDITIONS

1. 1 Year parts & labor warranty on systems
2. Prices & availability subject to change w/o notice
3. Shipping, insurance and COD charges are additional & non-refundable
4. Return shipping must be insured and bearing a RMA # on the shipping label
5. Defective items replaced or repaired at our discretion
6. Not responsible for typographic
7. All returns are subject to 15% restocking fees and cover only computers, excludes peripherals. No refunds after 30 days.
8. Government & Corporate purchase orders are welcome

FED RAISES INTEREST RATES - DOW TAKES A DIVE

Expectations of higher interest rates became a reality during the week ended February 4, much to the detriment of US stocks. After two days of deliberation, the Federal Open Market Committee (FOMC) voted to raise the Federal Funds rate to 3.25% from 3%. The FOMC's decision to raise short-term interest rates pummeled Wall Street as the Dow posted a one-day drop of 96.24 points. Higher interest rates also make stocks less attractive because they raise concern about the growth in the economy and corporate profits. Higher interest rates also make fixed-income invesments more favorable, as opposed to the stocks. For the monthly period ended February 4, however, the Dow Jones Industrial Average gained 50.65 points, to end at 3871.42.

The MicroTimes Stock Index, on the other hand, lost 137.77 points, or 2.83%, to close at 4728.74.

Compaq Computer Corp. said its fourth-quarter earnings surged 70% amid rising demand for desktop and portable computers. The personal computer company reported record profits of $151 million, or $1.74 a share, from $89 million, or $1.11 a share, a year earlier. Revenue also advanced to $2.2 billion, up 57%, from $1.4 billion a year ago. Shares of Compaq jumped $7.50 per share, to close at $85.25

Digital Equipment Corp. (DEC) was lowered to "market performer" from "trading buy" by Goldman Sachs and Co.'s analyst Barry Willman. The rating on the company's bonds was also lowered by Moody's Investors Service Inc. to "Baa3" from "A3", on $1 billion of DEC's senior long-term debt. As a result, the company is considering its second major reorganization plan. DEC shares closed at $29.13, down $7.25 per share.

Shares of Dell Computers lost $5.75 per share, as the personal computer manufacturer suffered a reduction of earnings estimate by Melinda Reach, an analyst with Merrill Lynch & Co. Reach lowered her earnings estimate for the fourth-quarter ended January 31 to a figure between $0.10 to $0.30 per share, from $0.40 a share. She also lowered her fiscal 1995 forecast to $1.65 a share, from a previous estimate of $2.25 per share. The PC concern closed at $20.00.

AST Research Inc. closed at a 52-week high of $28.75 per share, after the world's fifth-largest computer company posted a 22% jump in second-quarter earnings. Net income in the second quarter rose to $17.9 million, or $0.55 a share, from $14.6 million, or $0.46 a share, in the year-earlier period. The increase in earnings was partly fueled by AST's acquisition of Tandy Corp.'s PC manufacturing business. Consequently, AST was raised to a "buy" from "neutral" by Steve Eskenazi, an analyst with Alex Brown & Sons. AST shares were up $5.13 per share.

EXCH	COMPANY		TICKER SYMBOL	CLOSING PRICE 01/07/94	CLOSING PRICE 02/04/94	NET CHANGE IN PERIOD	PERCENT CHANGE IN PERIOD	P/E RATIO	ANNUAL DIVIDEND RATE	ANNUAL DIVIDEND YIELD	ANNUAL HIGH	ANNUAL LOW
	SOFTWARE											
OTC	Adobe		ADBE	26.25	27.25	1.00	3.81	22	0.20	0.73	37.00	16.25
OTC	Aldus	(H)	ALDC	25.50	21.25	–4.25	–16.67	30	0.00	0.00	27.75	13.50
OTC	Autodesk		ACAD	45.88	48.75	2.88	6.27	21	0.48	0.98	56.75	37.00
OTC	Borland		BORL	15.00	13.25	–1.75	–11.67	25	0.00	0.00	27.25	12.75
OTC	Informix		IFMX	19.00	17.13	–1.88	–9.87	21	0.00	0.00	27.25	13.38
OTC	Lotus	(H)	LOTS	59.25	55.50	–3.75	–6.33	45	0.00	0.00	61.38	22.38
OTC	Microsoft		MSFT	85.25	81.25	–4.00	–4.69	24	0.00	0.00	98.00	70.38
OTC	Novell		NOVL	21.75	21.63	–0.13	–0.57	–	0.00	0.00	35.25	17.00
OTC	Oracle		ORCL	31.75	31.25	–0.50	–1.57	46	0.00	0.00	37.75	13.31
OTC	Software Publishing		SPCO	8.00	7.50	–0.50	–6.25	–	0.00	0.00	14.50	5.50
OTC	Symantec		SYMC	15.88	15.00	–0.88	–5.51	–	0.00	0.00	20.50	9.25
	HARDWARE											
OTC	Apple		AAPL	33.13	33.38	0.25	0.75	–	0.48	1.44	59.13	22.00
OTC	AST Research	(H)	ASTA	23.63	28.75	5.13	21.69	–	0.00	0.00	31.25	12.75
NYS	Commodore		CBU	3.75	3.13	–0.63	–16.67	–	0.00	0.00	6.38	2.50
NYS	Compaq	(H)	CPQ	77.75	85.25	7.50	9.65	16	0.00	0.00	88.75	41.75
NYS	Digital Equipment	(L)	DEC	36.38	29.13	–7.25	–19.93	–	0.00	0.00	49.25	29.13
OTC	Dell		DELL	25.75	20.00	–5.75	–22.33	–	0.00	0.00	40.63	13.50
NYS	Hewlett-Packard		HWP	83.00	81.00	–2.00	–2.41	17	1.00	1.23	89.25	64.38
NYS	IBM		IBM	58.88	52.00	–6.88	–11.68	–	1.00	1.92	60.00	40.63
NYS	Silicon Graphics	(H)	SGI	23.88	25.13	1.25	5.24	33	0.00	0.00	26.00	11.75
OTC	Sun Microsystems		SUNW	29.63	25.50	–4.13	–13.92	14	0.00	0.00	36.50	21.13
NYS	Xerox	(H)	XRX	90.75	95.00	4.25	4.68	16	3.00	3.16	98.63	69.88
NYS	Tandy		TAN	46.63	44.88	–1.75	–3.75	26	0.60	1.34	50.75	24.63
	CPU'S											
NYS	Advanced Micro Devices	(L)	AMD	18.38	20.38	2.00	10.88	9	0.00	0.00	32.88	16.75
OTC	Intel		INTC	65.88	61.75	–4.13	–6.26	12	0.20	0.32	74.50	42.75
NYS	LSI Logic	(H)	LSI	16.63	17.63	1.00	6.02	16	0.00	0.00	19.38	10.25
NYS	Motorola		MOT	89.63	95.25	5.63	6.28	27	0.56	0.59	107.50	52.25
	COMMUNICATIONS											
NYS	AT&T		T	54.63	54.88	0.25	0.46	18	1.32	2.41	65.00	51.63
NYS	BellSouth Corp.		BLS	55.50	56.63	1.13	2.03	27	2.76	4.87	63 88	50.63
OTC	MCI		MCIC	27.38	26.50	–0.88	–3.20	24	0.04	0.15	29.88	18.81
NYS	Northern Telecom		NT	32.63	30.38	–2.25	–6.90	–	[illegible]	1.19	46.00	21.38
NYS	Pacific Telesis		PAC	54.25	55.25	1.00	1.84	–	2.16	3.91	59.25	44.88

KEY: NYS = NEW YORK ASE = AMERICAN OTC = OVER THE COUNTER
(H) = NEW HIGH REACHED IN PERIOD (L) = NEW LOW REACHED IN PERIOD

MARKET DIARY:

ADVANCES	13
DECLINES	19
UNCHANGED	0
NEW HIGHS	7
NEW LOWS	2

MOST ACTIVE ISSUES:

LARGEST DOLLAR GAINER	Compaq	$	7.50
LARGEST DOLLAR LOSER	Digital Equipment	$	–7.25
LARGEST PERCENTAGE GAINER	AST Research		21.69 %
LARGEST PERCENTAGE LOSER	Dell		–22.33 %

	CLOSE 01/07/94	CLOSE 02/04/94	NET CHANGE IN PERIOD	PERCENT CHANGE IN PERIOD
MICROTIMES STOCK INDEX	4866.50	4728.74	–137.77	–2.83
DOW JONES INDUSTRIAL AVERAGE	3820.77	3871.42	50.65	1.33
STANDARD & POOR'S 500 INDEX	469.90	469.81	–0.09	–0.02
N.Y.S.E. COMPOSITE	260.34	261.21	0.87	0.33
NASDAQ COMPOSITE	782.94	777.28	–5.66	–0.72

CLOSING QUOTES FOR GRAPH:		
DATE	MICRO TIMES	DOW JONES
06/24/93	4266.52	3490.61
07/22/93	4072.42	3525.22
08/23/93	4264.70	3605.98
09/17/93	4212.67	3613.25
10/18/93	4473.13	3642.31
12/17/93	4644.25	3751.57
01/07/94	4866.50	3820.77
02/04/94	4728.74	3871.42

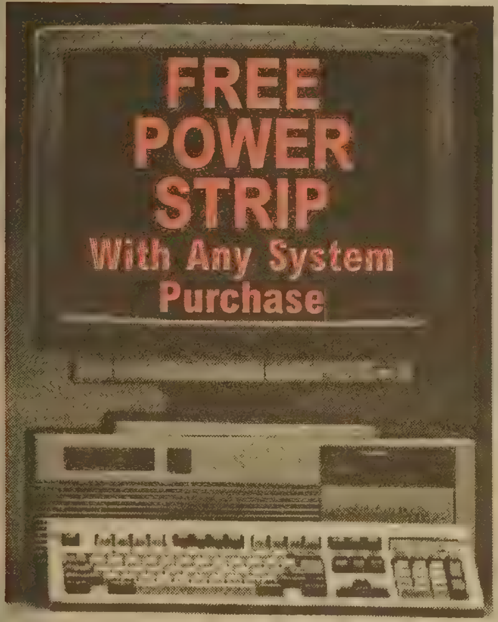
Copyright Nordby International, Inc. Louisville, CO

This information is based on sources believed to be reliable, and while extensive efforts are made to assure its accuracy, no guarantees can be made. Nordby International and Microtimes assume no liability for any inaccuracies. For information on Nordby International's Data-On-Demand Services for any of the above companies call Nordby International at (800) 926-7404.

GREAT SERVICE, GREAT PRICES
QUALITY YOU CAN COUNT ON!

5 Years Labor, 1 Year Parts Warranty, FCC Class "B" Approved Systems

SYSTEMS	Motherboard & CPU	BASIC SYS +170MB HDD +MPG CARD + 14" MONO MONITOR	BASIC SYS W/1.2&1.44 FDD +170MB HDD +SVGA CARD +SVGA MON	BASIC SYS w/1.2 & 1.44 FDD +200MB HDD +SVGA CARD &SVGA MON
P5-66 Pentium 256K w/3VLB	$1418	$1833	$2036	$2054
P5-60 Pentium 256K w/3VLB	1178	1593	1796	1814
486DX2-66 128K w/3VLB	503	918	1121	1139
486DX2-50 128K w/3VLB	465	880	1038	1101
486DX2-33 128K w/3VLB	325	740	943	961
Green PC 486DX2-66 256K w/3VLB ZIF	553	968	1171	1189
Green PC 486DX2-50 256K w/3VLB ZIF	515	930	1133	1151
Green PC 486DX2-66 256K w/3VLB ZIF	370	785	988	1006
486DX2-66 128K ISA	498	913	1116	1134
486DX2-50 128K ISA	462	877	1080	1098
486DX2-33 128K ISA	320	735	938	9516
486DX2-25 128K	148	563	766	784
386-40 128K (AMD CPU)	100	515	718	736
386SX-33 (AMD CPU)	63	478	681	699



BASIC SYSTEMS INCLUDE

- Motherboard & CPU
- 1MB RAM
- 1.2 or 1.44 Floppy Drive
- 1:1 2HD/2FD Controller with 2 Serial, 1 Parallel, 1 Game Ports
- Internal Clock/Calendar
- Baby Case & Power Supply
- 101 Enhanced Keyboard

Custom Configuration Available!

MULTIMEDIA SPECIALIST

MULTIMEDIA UPGRADE KITS

Sound Blaster Pro Deluxe Kit

- *Panasonic CD-ROM CR523 (380ms 150KB)*
- *Audio Cable*
- *Caddy*
- *Stereo Speakers*
- *Includes 5 CD titles*
  - *Encyclopedia*
  - *US Atlas*
  - *World Atlas*
  - *Secret Weapons*
  - *Mother Goose*

$295

Sound Blaster 16 Multi CD Kit

- *Mitsumi CD-ROM FX001D Double Speed (250ms 300KB)*
- *Audio Cable*
- *Stereo Speakers*
- *Microphone*
- *Includes 6 CD titles*
  - *Encyclopedia*
  - *US Atlas*
  - *World Atlas*
  - *Return to the Zork*
  - *Chessmaster 3000*
  - *Mavis Beacon Teaches Typing*

$410

BEST SELLING CD TITLES

Animals v1.0	$16
Arthur's Teacher Trouble	21
Beauty and the Beast	14
Carmen San Diego	19
Compton's Encylopedia	52
Dinosaur Adventure	21
Family Choice /Britannica	17
Family Doctor	18
Harry's story & Coloring Book	18
King Quest V	14
Loom	16
MacMillan Dictionary for Children	20
Mixed up Mother Goose	16
Secret Weapons of Luftwaffe	16
Sleeping Beauty	15
Space Adventure	23
Star War Chess	18
So Much Shareware I, II, III	13,15,19
The 7th Guest	45
U.S. Atlas	15
Wing Commander & Ultima VI	17
World Altas	13

CD-ROM DRIVES

Mitsumi FX001D w/Int	$180
Panasonic 523	149
Panasonic 562	175
Sony 33A	185
Toshiba 3401B SCSI	328

SOUND CARDS

Sound Blaster Pro Deluxe	$105
Sound Blaster 16 Multi CD	160
Sound Blaster 16 Multi CD ASP	196
Sound Blaster 16 SCSI II	183
Sound Blaster 16 SCSI II ASP	209

Government, Corporate, University, & VAR Inquiries and PO's Welcome

SYSTEM UPGRADES

VIDEO CARDS & MONITORS

ATI Ultra Pro VLB w/2MB	$316
ATI Plus VLB w/2MB	272
ATI Ultra Pro ISA w/2MB	299
ATI Ultra Pro EISA w/2MB	345
ATI Ultra Pro PCI w/2MB	360
DIAMOND Viper VLB w/2MB	352
DIAMOND Speed Star Pro VLB w/1MB	103
DIAMOND Stealth Pro VLB w/2MB	306
DIAMOND Stealth 24 w/1MB (ISA/VLB)	142
ORCHID Celsius VLB w/1MB	196
ORCHID Fahrenheit VLB w/1MB	136
ORCHID Fahrenheit 1280 Plus w/1MB	136
TSENG Lab VGA w/1MB	69
Cirrus Logic w/1MB Windows Accelerator	57
Trident VLB w/1MB	70
NEC 3V/3FGE	520/570
NEC 4FGE/5FGE	670/1045
SONY 1430/17SE1	1528/1170
Viewsonic 4E/6E	255/275
Viewsonic 15/15E	429/370
Viewsonic 17/17G	930/820
Viewsonic 20/21	1495/1745

CONTROLLER

IDE 2FD/2HD	$11
IDE 2FD/2HD with 2S/1P/1G	13
Promise DC-ZOOM IDE w/512K Cache exp to 8 MB	119
Promise DC-4030 VLB/Cache Controller 0-16MB	122
Adaptec SCSI 1542 CFK w/Kit (ISA)	232
Adaptec SCSI VLB 2842	280
VLB IDE Controller 2FD/2HD with 2S/1P/1G	27

HARD DRIVES

170MB 16ms IDE	185
212MB 13ms IDE	195
250MB 14ms IDE	212
340MB 14ms IDE	255
420MC 13ms IDE	318

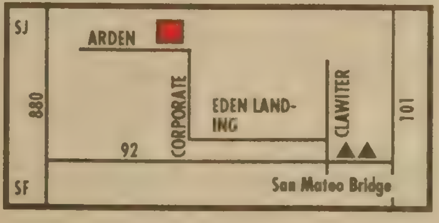
CASES

Tower Case full size, 6 drives, 285wps	$90
Tower Case medium size, 6 drives, 230wps	70
Tower Case mini size, 5 drive, 230wps	47

MISCELLANEOUS

AT I/O (2S/1P/1G)	$11
Serial Card/ Parallel Card	11
Fax Modem (9600 Fax, 2400 Modem)	36
Fax Modem (14,400 Fax, 14,400 Modem)	102
Serial Mouse	10
Auto Data Switch 4 Computers to 1 Printer	35
Auto Data Switch 2 Computers to 1 Printer	20
Data Switch 4 Computers to 1 Printer	14
Power Center/Power Strip	14/3
Colorado Tape Backup 250MB	153
16-Bit Ethernet Card 10 Base-T	40
SIMM/CPU/SRAM/DRAM	LOWEST
Math-Co 387DX-33/40	50/51
Math-Co 387SX-25/33	47/48

3518 ARDEN ROAD
HAYWARD, CA 94545
(510) 670-0636
FAX (510) 670-0790
Hours M-F 9-6 SAT 10-4 Pacific Time
Prices subject to change without notice. Not responsible for typographical errors.



MULTIMEDIA 101

Multi & Media beyond

Violence In The Streets And Sanctuary Woods

BY JONATHAN E.

The news media, politicians, and public opinion are currently in an uproar about violence in the streets. Video games have been cited as a cause of the increased rate of murder of teenagers by teenagers. In particular, the games' interactivity, or user-caused actions, and their repetitive nature are identified as contributing to decreased sensitivity towards the consequences of violent acts. It's beyond the scope of this column to discuss this issue in great depth, but, at an emotional level, I am persuaded that violence-depicting video games are likely to be one factor in certain acts of violence. I don't believe that they're the only contributing factor. Furthermore, I think it extremely unlikely that they could ever be shown to be the determining factor except perhaps in a few isolated circumstances.

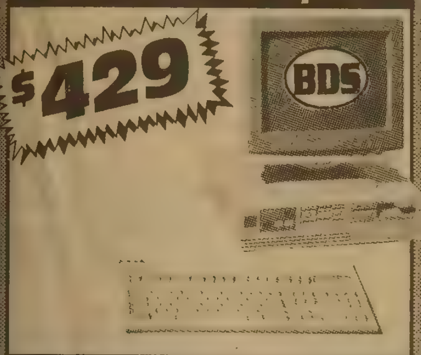
There are many who believe that the depiction of violent acts in fictional games or dramas cannot have any effects in real life. I venture that one reason for this is because, if one were to identify such depiction as leading to real-life violence, one would have to ask the nettlesome question of whether such depiction for financial gain should be protected as freedom of speech or expression. Clearly, making money is the goal of the mainstream corporate video game industry whatever idealistic, artistic, or intellectual aims some individuals within the industry may have. Video games and home-computer games are somewhat different from one another, but broadly similar enough that, should the questions of censorship or ratings come to the point of legislation, they are likely to be considered in the same light.

Sanctuary Woods is a company that believes that games can have an effect. Surely one of its goals is to make money, but it has chosen to do so by marketing multimedia games for home computers that attempt to teach values other than ripping the heads off one's opponents. It is also one of very few that market a comput-

Copyright © 1994 by Jonathan E. All rights reserved.

The BDS Workhorse 40 MHz 386-ISA System

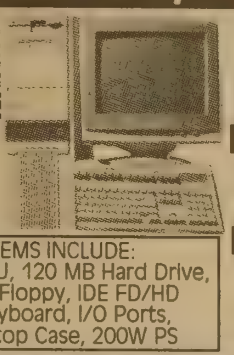
$429



The BDS Super High-Performance 66 MHz 486-VESA Local Bus System

$879

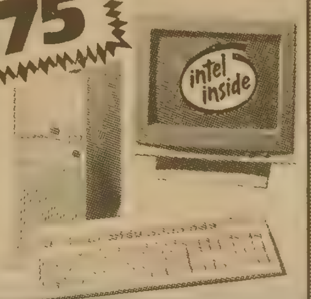
486 DLC-40	$465
486 DLC-33	$455
386SX-40	$409
486SX-33	$510
ISA 486DX-50	$819
IBM 486SLC-66 VESA	$599



ALL BASIC SYSTEMS INCLUDE:
Motherboard with CPU, 120 MB Hard Drive, 1 MB RAM, 1.2 MB Floppy, IDE FD/HD Controller, 101 Keyboard, I/O Ports, Minitower or Desktop Case, 200W PS

The BDS Powerhouse 33 MHz 486-VESA System

$675

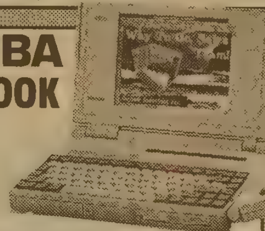


Apple® Macintosh Quadra® 660 AV w/CD 8/230

- This computer obeys your commands
- 25 MHz 68040 microprocessor
- 55 MHz digital signal processor for audio visual technology like voice recognition and video capture
- 8 MB RAM & 230 MB HD w/ CD-ROM

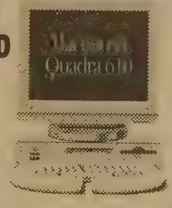
$2359

TOSHIBA NOTEBOOK



T1900/T1900C	CALL
T1950/T1950C	CALL
T4600/T4600C	CALL
T4700C (DX2/50)	CALL

Apple® Macintosh Quadra® 610 w/CD 8/230



- 25-MHz 68040 Processor
- 6882 math co-processor
- 8 MB RAM expandable to 68 MB
- 230 MB internal hard drive
- Affordable performance, flexibility, and room to grow

$2249

MULTIMEDIA 486SX-33

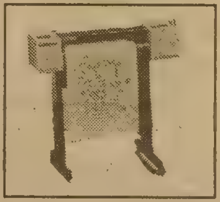
Multimedia
- **Over $800 Worth of Software**
- **CD-ROM**
- **Sound Card**
- **Stereo Speakers**

This best selling multimedia package comes complete with 170 MB hard drive, 4 MB RAM, modem, and monitor.

$1400

BEST PRICES ON ALL HP PRODUCTS

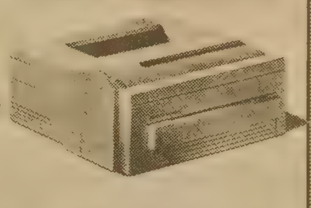
HP Plotters



LaserJet 4L

HEWLETT PACKARD

- 300 dpi & 4 pages per minute
- PCL 5 & 26 scalable fonts
- 100 sheets adjustable tray
- Memory enhancement technology



$639

HP LaserJet Fax 900/950

DeskJet 500	$285	LaserJet 4M	$1869
DeskJet 500C	375	LaserJet 4ML	995
DeskJet 550C	499	LaserJet 4si	2950
DeskJet 1200C	1395	LaserJet 4siMx	4485
DeskJet IIIp	855	ScanJet IIP	680
LaserJet 4	1375	ScanJet IIC	995
LaserJet 4P	959	PaintJet XL3000	2160

MOTHERBOARDS Vesa Local Bus w/CPU

486DXII-66 VLB	$510
486DX-50 VLB	475
486DX-33 VLB	341
486SLC2-50 IBM VLB	208
486SLC2-66 IBM VLB	254
486DLC-40 TI VLB	165

MOTHERBOARDS w/CPU

486Sx-33	$162
486SX-25	149
386DX-40	99
386SX-40	72
386SX-33	64
386SX-25	62

MODEMS

2400 Baud (Int)	$30
2400 Baud (Ext)	50
Fax Modem (9600 Fax, 2400 Modem)	45
14,400 Modem, 14,400 Fax	118

CD ROMS

Mitsumi MPC CD-ROM	$165/205
SONY CDU31A/33A	159/199

HARD DISKS

42 MB Quantum	$108
84 MB Conner	149
120 MB Conner	175
174 MB Conner	185
213 MB Maxtor	199
340 MB Maxtor	265
540 MB Fujitsu	459

MONITORS

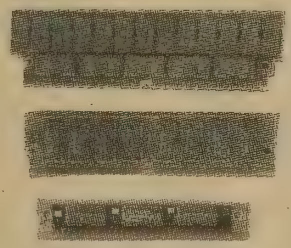
VGA 640x480 .51	$168
SVGA Multiscan .39	189
SVGA Multiscan .28	230
Non-Interlaced Multiscan .28	249
14" Mono VGA Paper White	99
14" Mono	82
15" Non-Interlaced Multiscan	355

ADD-ON CARDS

IDE I/O 2S/1P/1G	$15
VESA LB IDE I/O	35
VESA LB VGA 1 MB	89
VESA LB VGA 2 MB	139
Trident 1 MB	65

NETWORK CARDS 2 Year Warranty

NE-2000 Ethernet 16 Bit Coax	$48
NE-2000 Ethernet 10T Base 16 Bit	48
NE-2000 Ethernet Combo 16 Bit	52
Arcnet 16 Bir Coax 16 Bit	56
Arcnet 16 Bit Combo	59
3 Com 16 Bit 503	158
3 Com 16 Bit 507	183
3 Com 16 Bit 509	132



SIMMS

1x9-10 9 Chip	$38
1x9-80 3/9 Chip	41/48
1x9-70 3/9 Chip	44/54
1x9-60 3/9 Chip	45/59
1x8-80 8/2 Chip	38/48
1x8-80/2 Chip	44/54
1x8-70	48
1x8-60	58
4x9-60	170
4x9-70	168
4x9-80	160
4x8-70 8 Chip	148
4x8-80 8 Chip	145
256x9-80	12
256x9-70	13

DRAMS

1x1-80	$6.99
1x1-70	6.99
1x1-60	6.99
256x4-80	5.99
256x4-70	5.99
256x4-60	5.99
256x1-15-12-10	1.55/1.60/1.75
256x70/80	1.80
4464-80	1.99
4464-10	1.89

72 PIN SIMMS

2 MB 604-80ns	$79
4 MB 1x36-80ns	169
4MB 1x36-70ns	179
8MB 2x38-80ns	349
8MB 2x36-70ns	359
16MB 4x36-70ns	610
16MB 2x32-70ns	569

MATH CO-PROCESSOR

INTEL

80487SX (for all speed)	$327
80487SX-20 (overdrive)	297
80487SX-25 (overdrive)	427
80487SX-33 (overdrive)	557
80487DX-25 (overdrive)	447
80487DX-33 (overdrive)	567
8087-5 Mhz	48
8087-2 8 Mhz	67
8087-1 10 MHz	108
80287-6 6 MHz	33
80287-8 8 MHz	37
80287XL 12 MHz (Laptop)	67
80287-10 10 MHz	33
80C287-12 MHz	33
80397SX-16, 20, 25	50
80387DX-16, 20, 25, 33	65
80387DX-25 (Tube)	63

CRYIX

83D87-40 40 MHz	$56
83D87-20 20 MHz	46
83D87-25 25 MHz	56
83D87-33 33 MHz	56
83SX87-25 16 MHz	54
83SX87-33 33 MHz	56

IIT

8C87-8	$26
80C287-10	36
80C387SX-25	42
80C387SX-33	45
80C387DX-20	38
80C387DX-25	40
80C387DX-33	42
80C387DX-40	45

CACHE MEMORY

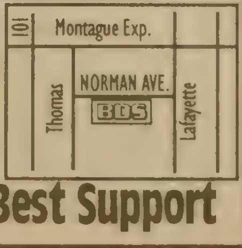
32x8-25	$4.25	8x8-20	$2.75
32x8-20	5.25	8x8-25	2.25
32x8-15	6.00	8x8-15	3.99
32x8-12	6.50	16x4-25	2.25
64x4-25	6.00	16x4-20	3.75
64x4-20	7.00	16x4-15	2.25
64x4-15	10.00	128x8-25	32.50
64x1-20	6.75	128x8-15/20	CALL

Upgrade & Repair

3 Years Labor and 1 Year Parts Warranty

BDS INTERNATIONAL

1500 Norman Ave. #B, Santa Clara, CA 95054
Phone: 408-988-8777 Fax: 408-988-3758



MasterCard VISA

Best Price • Best Service • Best Quality • Best Support

er game specifically for girls. If rating of games ever comes about, Sanctuary Woods' current titles would certainly receive a G.

HAWAII HIGH—THE MYSTERY OF THE TIKI

The Mystery of the Tiki is the first of a projected Hawaii High series of interactive comic-book adventures written and illustrated by noted comic-book artist Trina Robbins. The title is designed for girls from eight to twelve years old. Robbins had originally proposed the series as traditional paper-based comics to major comic-book publishers. After being turned down, she contacted Sanctuary Woods and recast the proposal as an interactive multimedia product with "edutainment" value.

The story line is relatively simple and traditional. Jennifer moves from New York City to Hawaii, meets a new friend at school, Maleah, and the two set off on an adventure involving a stolen tiki and a couple of villainous thieves through exotic Hawaiian locales. The new media aspects are also relatively simple and consist mostly of what's rapidly becoming traditional in new media: sound and animations; some fairly straightforward puzzles, quizzes, and mazes; a series of branches that can lead to either dead ends or retracing your path depending on whether you make the correct choices; one alternative route through part of the story; and some "hypertext" material, including QuickTime movies, on aspects of Hawaiian history, culture, flora and fauna, and geography.

It may be simple, but it seems appropriate for the intended age group, and it is done very well. Everything worked as it was supposed to, and, try as I might, I could not find any bugs.

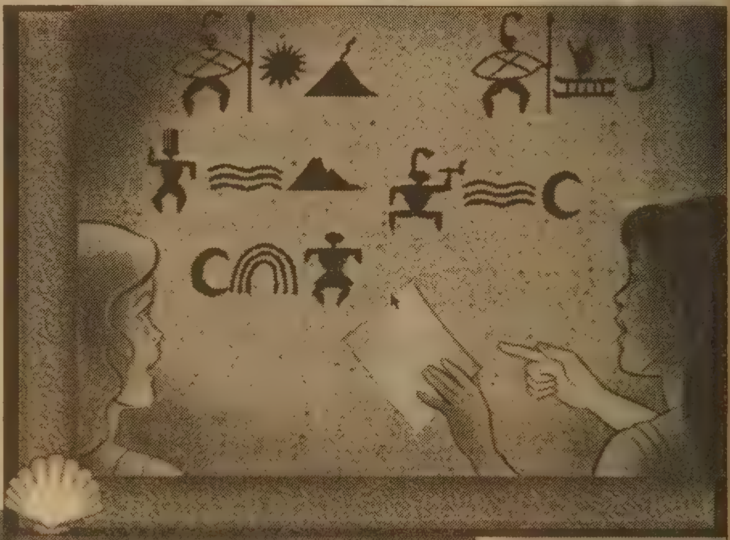
I have some slight reservation about the way active screen areas are indicated, which, in general concept, The Mystery of the Tiki shares with the other Sanctuary Woods series, Victor Vector & Yondo. In The Mystery of the Tiki, as the cursor passes over an active area an icon appears on the sea shell graphic in the lower left corner. This requires you to attempt to look at two places at once—the main screen where your cursor is and down to the side. If you're looking at the main screen and moving the mouse fast, the icon flashes on and off so fast that you barely notice it out of the corner of your eye. It would be distinctly preferable for the cursor itself to change shape when over an active area.

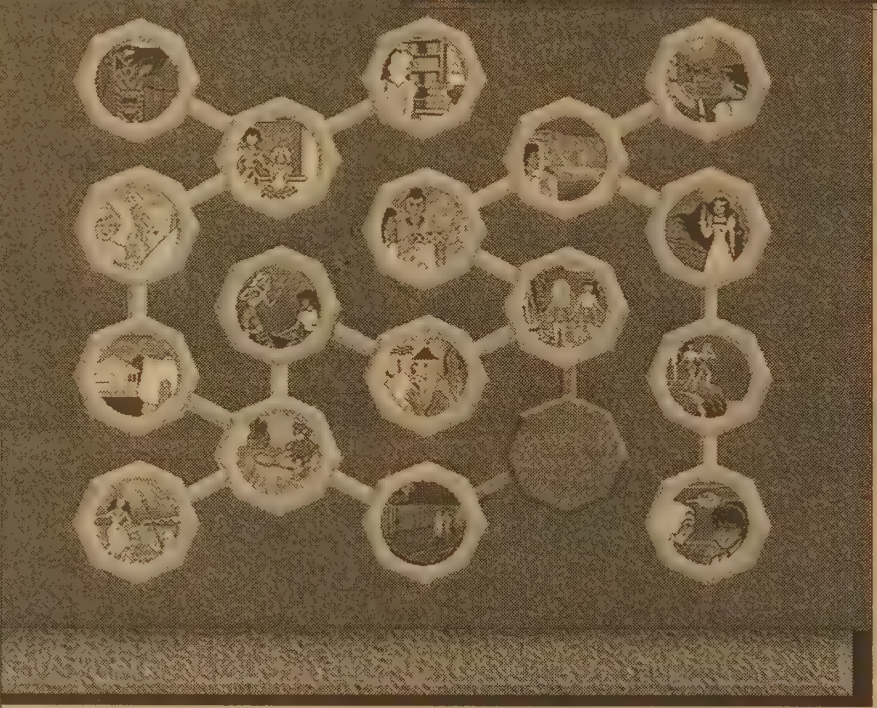
The general design, however, is attractive. Trina Robbins' illustration style is straightforwardly comic book, suiting the needs of the material and inducing an effective atmosphere for the various different screens. The coloring is nicely done—rich enough to be appealing but not overly fussy. The icon design is easy to understand. The absolutely essential requirement of no menu bar for this kind of title is met. The sounds are appropriate and well produced, although occasionally repetitive and sometimes the music is a little too obvious.

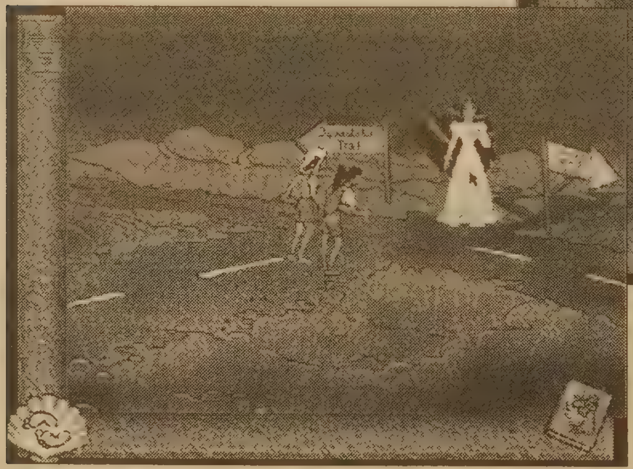
INTERACTIVITY

"Interactivity" is a word that means many things under different circumstances. In The Mystery of the Tiki, a portion of the interactivity simply allows you to control the forward pacing of the story in the manner of turning the pages of a book at your own pace. Complete freedom of navigation, as found in Myst with its three-dimensional world, or the ability to flip back, as through the pages of a book, is not available in The Mystery of the Tiki, except in very limited circumstances from a few screens or through the plot map. Additional standard interactivity is provided by the ability to cause various screen actions and sounds to occur. Much of this is quite witty or charming—I particularly liked the smiley faces on the shirt of one of the villains sticking out their little red tongues. The ability to get the characters to repeat their lines helps to decipher some clues about what to do next.

The interactivity of the story line branching leads to situations where, if you







PS Positive Solution Com Inc.
DBA PS Computer

VISA COD MasterCard

Multi-Media On Display
We Will Repair or Upgrade Your System!

PS AIR Pentium System
- AIR 586 Pentium VESA Local Bus Motherboard (3 VESA Slots)
- 512K Ext. Cache
- 16MB 72-pin RAM (exp. to 128MB)
- 540MB Quantuum or Maxtor Hard Drive
- 1.2 MB 5.25" and 1.44MB 3.5" Floppy Drives
- 32-bit VLB IDE Controller w/2P, 1 Game Ports
- Air Star VESA w/2MB VRAM Graphics Card
- Super Tower w/300W UL Power Supply, 2 Fans, and Wheels on bottom of case
- 101 Enhanced Keytronic or Chicony Click Keyboard
- Microsoft Mouse or Logitech Mouseman
- 15" Supercom 1280x1024 .28 SVGA NI Monitor
- 7 Year Labor, 1 Year Parts Warranty

PC MAGAZINE EDITOR'S CHOICE

AIR Star 2000 VESA w/2MB Graphics Card, **Rated** - Best in its Class! Beter that Diamond Viper VLB or ATI Ultra Pro!
PC Magazine Dec. 1993 p.287

60MHz $3559
66MHz $3899

PS 486 VESA Local Bus 256K Cache System
- Zif Chip Socket on Motherboard
- 8MB RAM (70ns) exp. to 32MB
- 540MB Quantum or Maxtor Hard Drive
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drives
- 32-bit IDE VESA LB Controller
- 2 Serial, 1 Parallel, and 1 Game Ports
- 1MB 32-bit Cirrus Logic VESA Local Bus SVGA Card w/Hi-Speed Chipset
- Med Tower w/Power Supply
- 101 Enhanced KeyTronic or Chicony Click Keyboard
- MS Mouse or Logitech Mouseman
- 14" Proton 1280x1024, .28 SVGA Non-Int Full Screen Monitor w/72Hz Refresh Rate
- CPU Cooling Fan
- 7 Year Labor Warranty, 1 Year Parts

INTEL $1909

INTEL $1719

MULTIMEDIA PRODUCTS

PS 486 VESA Local Bus 128K Cache System
- 4MB RAM (70ns) exp. to 32MB
- 340MB Maxtor Hard Drive (8.2ms speed)
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drive
- 32-Bit IDE VESA LB Controller
- 2 Serial, 1 Parallel, and 1 Game Ports
- 1MB 32-Bit Cirrus Logic VESA LB SVGA Card w/Hi-Speed Chipset
- Mini Tower or Desktop Case w/ Power Supply
- 101 Enhanced Keyboard
- 3-Button High Quality Mouse
- 14" Proton 1280x1024 .28 SVGA Non-Int Full Screen Monitor w/72Hz refresh rate
- CPU Cooling Fan
- 7 Year Labor Warranty, 1 Year Parts

INTEL $1479

INTEL $1289

PS 386DX-40MHz 128K Cache System
- 386DX-40 AMD CPU on Motherboard
- 4MB RAM (70ns) exp. to 32MB
- 245MB Maxtor HD 14ms
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drive
- 2 Serial, 1 Parallel, and 1 Game Ports
- 1MB Western Digital Paradise True Color SVGA Card
- Mini Tower or Desktop Case w/ Power Supply
- 101 Enhanced Keyboard
- 3-Button High Quality Mouse
- 14" Arche 1024x768 .28 SVGA Monitor
- 7 Year Labor Warranty, 1 Year Parts

$929

Special Sale
Mitsumi Double Speed CD-ROM 001D

(250ms, 350KB/s, w/Card)

$189

Sound Blaster
Compatible Sound Card

$49

Amplifed Speakers

80 Watt	120 Watt
$79	$89

AC Traveler Converter
Plugs into your cigarette lighter for on-the-road AC power. Converts the energy of any 12-volt car, boat, plane or RV battery into 140 watts of AC power.

$89

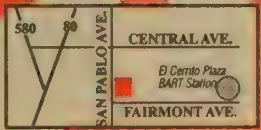
100 Different CD Titles In Stock!!
Distributors Are Welcome!

Western Art History Encyclopedia Vol. 1	$15
Family Fun	$15
Image Library II	$15
MIDI & Wave Music Workshop	$15
14000 Multimedia Prog. Collection	$15
Sound Library (Audio, Wave, MIDI)	$15
Top 101 Multi Shareware '93	$15
Windows 50 Games	$15
16 Bit Sound Masterpiece	$15
CompuFix	$15
United Computers	$15
Learn DOS for Fun	$15
Sakura	$15
La Traviata	$15
Game Galore	$15
Communication Master	$15
49ers Windows Game	$15
Hot Shareware	$15
All You Can Play	$15
Puzzle Mania	$15
3D Animation	$15
Open DOS	$15
Computer Supermarket	$15
World of Education	$15
Sound Library II	$15
Music Toolbox	$15
Travel to Space	$15
Mac Shareware Super Carrier	$15
Business Library	$15
Clipart Library	$15
Programmer Power Tool	$15
Interactive Chinese & Games	$15
Windows At Its Best	$15
Windows Soft Treasury	$15
Software From Arround The World I	$15
Photo Madness	$15
Photo CD Demo I	$15
Windows Programs	$15
California Surfers	$15
15000 Chinese Text Reader	$15
Sweet Summer	$15
Insatiable Woman (Happyness)	$15
Massage	$15
Designer Clipart I	$15
Oriental Hot Night Vol. I	$15
Oriental Hot Night Vol. II	$15
Designer Clipart V	$15
All New Program Test Drives	$15

SPECIALS

Proton 14" 1280x1024, 28 SVGA Non-Interlaced Monitor	275
9600 FAX/2400 Modem w/Bit FAX for Windows	45
9600 FAX/2400 Modem Pocket	85
14,400 FAX/14,400 Modem	109
Colorado 250MB Tape Backup Drive	149
Mini Tower w/200 Watt Power Supply	49
Medium Tower w/230 Watt Power Supply	69
Full Tower w/250 Watt Power Supply	89
Super Tower w/300 Watt Power Supply, 2 fans	165
Desktop Case w/200 Watt Power Supply	55
3-Button Mouse	9.50
Logitech Mouseman	45
Logitech Mouseman (BUS Ver)	60
New Microsoft Curve Mouse (v.9.0)	40
Logitech Trackman	69
Big Trackball	25

10032 San Pablo Ave.
El Cerrito, CA 94530
TEL. (510) 527-6908



OPEN 6 DAYS
Mon-Sat: 9:30am to 6pm
FAX (510) 527-3823

You Can Count on Our Best Price and Qualified Service! • 7 Years Labor & 1 Year Parts Warranty!

Best Prices! Best Quality! Best Service!

CALL FOR UPDATED PRICES

LAITRON COMPUTER WEEKLY SPECIALS

PENTIUM

- Intel Pentium 60 CPU w/fan
- 3Buffer-enhanced VLB
- Automatic Power Saving
- AMI Flash BIOS 512K Cache
- 8MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44 MB Floppy Drive
- VLB IDE/IO
- 340MB IDE HD
- Focus 2001 101-key Keyboard
- Diamond Stealth VLB w/1MB
- Sigma Design 15" dark case
- Full Tower Case
- 250-Watt Power Supply

$2645

486-66 PCI

- Intel 80486-66 CPU w/fan
- 3 PCI Slots
- 32 Bit SCSI&IDE On Board
- 256K Cache
- 8MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44 MB Floppy Drive
- 340MB SCSI HD
- Focus 2001 101-key Keyboard
- Dimond Viper PCI w/2MB
- Sigma Design 15" dark case
- Medium Tower Case
- 250-Watt Power Supply

$2295

486-66 VLB

- AIR 3 VLB W/Power Saving
- AMD 80486DX2-66 CPU w/fan
- AMI BIOS 256K Cache
- 4MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44 MB Floppy Drive
- VLB IDE/IO
- 340MB IDE HD
- Focus 2001 101-key Keyboard
- 32 VLB VIDEO w/1MB
- Sigma Design 15" dark case
- Medium Tower Case
- 250-Watt Power Supply

$1445

486DX-33/128K

- AIR 3 VLB W/Power Saving
- Intel 80486DX-33 CPU
- AMI BIOS
- 4MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44MB Floppy Drive
- VLB IDE/IO
- 250MB IDE HD
- Enhanced 101-key Keyboard
- VLB VIDEO with 1MB
- 1024x768 .28dp SVGA Monitor
- Mini Tower Case
- 230-Watt Power Supply

$1195

CD-ROM SOFTWARE

American Business Phone Book '92	$17
Animals v.1.0 (DOS)	$15
Arthur's Teacher Trouble (MPC)	$21
Barney Goes To Space	$21
Battle Chess (DOS)	$24
Bus & Econ Atlas (DOS)	$22
Camen San Diego (DOS)	$19
CD Game Pack II (DOS)	$16
CD Storytime (DOS)	$15
ChessMaster 3000 (MPC)	$16
Compton's Encyclopedia (MPC)	$55
Compton's Family Encyclopedia	$34
Compton's Interactive Encyclopedia	$70
Desert Storm (MPC/Mac)	$17
Dictionary of the Living World	$24
Dinosaur Adventure	$23
Dr. Window Shareware	$15
Dr.Game Shareware	$14
Dr.Music Shareware	$14
Dr. Share Ware	$15
Electronic Home Library	$17
Family Choice/Britannica	$17
Family Doctor(DOS/Mac)	$17
Family Education Collections (DOS)	$19
Font Master I or Font Master II	$22
Ftura Games	$21
Great Cities of the World vol.1/2(DOS)	$17
Guiness Disk of Records (MPC) '93	$18
Illustrated Works of Shakespeare	$27
Jones in the Fast Lane (MPC)	$14
King's Quest V (DOS)	$14
Koda Photo CD	$13
Library of the Future 1st ed. (DOS)	$42
Loom from Lucas Film (DOS)	$16
Macmillan Dictionary for Children (MPC)	$25
Magazine Rack	$35
Manhole	$35
Mario's Missing/World Atlas	$16
Mavis Teaches Typing (MPC)	$16
MayoClinic (MPC)	$17
Media Clips 1 Pak (MPC/Mac)	$35
Microsoft Bookshelf '93 (MPC)	$50
Microsoft Works (MPC)	$50
MIDI Music Shop	$16
Mirror Mirror	$22
Mixed-Up Mother Goose (MPC)	$16
Monkey Island(DOS)	$16
Musical Instruments	$69
National Geographics Mammals (DOS)	$20
National Parks	$20
Ocean Digital Imagery v.1 (DOS)	$19
Oldies But Goodies	$20
PC-SIG 12th ed. (DOS)	$23
Peter and the Wolf (MPC)	$13
Playing with Language - (E/F/G/J/S)	$22
Publish It! v. 2.0 (DOS)	$19
Roger Ebert's Movie Companion	$35
Secret Weapons of Luftwaffe (DOS)	$16
Seventh Guest-Virgin Games	$45
Sleaping Beauty	$15
So Much Shareware! II (DOS)	$13
So Much Shareware! III (DOS)	$18
Sound Library(MPC)	$13

CD-ROM SOFTWARE

Space Senes Apollo	$40
Stellar 7 (DOS)	$14
Swim Wear 1993	$26
The Beauty & The Beast (MPC)	$13
The Best of Micro Prose	$25
TIME Almanac 1991 (DOS)	$16
TIME Table of History (DOS)	$16
Toolworks Encyclopedia (MPC)	$43
Total Baseball (DOS/Mac)	$16
True Type Explosion Fonts	$25
U.S. Atlas & Automap (DOS)	$23
U.S. History (DOS/Mac)	$20
USA Wars: Korea	$28
USA World Atlas Pack	$26
USA Wars: Vietnam (DOS/Mac)	$25
USAWars: World War II (DOS/Mac)	$25
Variety Store	$21
VGA Spectrum Sound Library	$18
Who Killed Sam Rupert	$25
Wing Commander/Ultima VI (DOS)	$16
Winware! vol. 3	$18
Wiz-Pak Shareware	$12
Woman of Venus	$28
World of Flight	$28
World Atlas v. 3.2 (MPC)	$15
World of Trains	$30
World View (DOS)	$13
World Vista	$28

CD-ROM

NEC CD-ROM CDR-500 3-SPEED	$468
NEC CR-ROM CDR-510 3-SPEED	$428
MITSUMI CD-ROM(350ms) w/Card	$148
PANASONIC CR-562(300kb/s)	$169
PANASONIC CR-522	$155
TEXEL INT	$330
TEXEL EXT	$430
TOSHIBA 3401 INT	$325
TOSHIBA 3401 EXT	$450
SONY CD 31AW CONTROLLER INT	$141
TEAC CD-50 DUAL SPEED	$275

PRINTERS

Brother HJ400 ink jet(Mac & PC)	$290
Canon BJ-200	$295
Canon BJC-600 Color	$599
Citizen GX200	$135
Citizen Project II (Portable)	$260
HP DeskJet 500	$300
HP DeskJet 500C	$395
HP DeskJet 550C	$580
HP LaserJet 4	$1350
HP LaserJet 4L	$675
HP LaserJet 4M/ML	$1900/$1025
HP LaserJet 4P/4MP	$975/$1370
HP 1200 C	$1365
Oki Data OL400	$495
Panasonic 1124i	$238
Panasonic 2123	$218
Panasonic 2150	$140
Panasonic 4410	$510
Color Kit	$45

MONITORS

ADI 4G15".28dp 1280x1024	$395
CTX 14" SVGA 1024x768 .28 Interlaced	$230
CTX 14" SVGA 1024x768 .28 Non-Interlaced	$250
CTX CMS 1561/LR 15" 1024*768.28 NI	$350/$370
Hitachi CM-2095	$1260
Hitachi CM-2187 .28/.31 dp	$2043/$1860
Mag 17F/17G 17" .26dp	$839/$849
Mag 15F LR	$464
Mitsubishi HL6955SETK 20" .31dp	$1720
Mitsubishi Diamond Pro 17" .26dp	$1065
Nanao 340iw	$540
Nanao F550i (W/Rebate)	$823
Nanao F550iw (W/Rebate)	$1040
Nanao T560i (W/Rebate)	$1570
Nanao F560iw (W/Rebate)	$1340
Nanao T660i (W/Rebate)	$2270
Nanao F750i	$1985
Nanao F760iw (W/Rebate)	$1970
NEC 3FGe	$565
NEC 3V	$523
NEC 4FGe	$665
NEC 5FGP	$1260
NEC 5FGe	$1045
NEC 6FGP	$2350
Sony CPD-1304	$465
Sony CPD-1430	$545
Sony CPD-1730	$945
Sony 17SE 1	$1130
Viewsonic 4E	$255
Viewsonic 5+	$350
Viewsonic 14E	$352
Viewsonic 6E	$275
Viewsonic 7	$788
Viewsonic 15E	$375
Viewsonic 15	$430
Viewsonic 17	$936
Viewsonic 20	$1605
Viewsonic 21	$1840
Monochrome 14"	$92
Monochrome VGA 14"	$108
VGA 14" .51dp	$172
SVGA 14" 39dp	$192
SVGA 14" 28dp	$230
SVGA 14" .28dp Non-Interlaced	$248
15"SVGA Sigma Design cool dark gray case	***$305***

MISC

3-Button Mouse	$12
Logitech First Mouse	$31
Logitech Mouseman	$38
Logitech Mouseman(Cordles 2)	$82
Logitech Trackan	$75
Microsoft Mouse	$32
MS Compatible Mouse	$10

SCANNERS

Artec ViewScan/32S B/W	$85
Artec ViewScan/256S True 256 grayscale	$115
Artec WalkScan /256S	$205
Logitech Scanman Easy Touch	$199
Logitech Scanman 256 gray scale	$169
Logitech Scanman Color	$429

HARD & FLOPPY DRIVES

Conner CP30204 212MB 12ms IDE	$195
Conner CP30254 250MB 14ms IDE	$210
Conner CP30344 340MB 13ms	$252
Conner CP30544 540MB <12ms IDE	$460
Fujitsu M2623T 425MB 12ms IDE	$420
Fujitsu M2624T 520MB 12ms IDE	$480
Maxtor 130 MB 15ms IDE	$175
Maxtor 7213AT 213MB 15ms IDE	$205
Maxtor 7245AT 245MB 15ms IDE	$220
Maxtor 7345A 340MB 13ms IDE	$265
Maxtor MXT540 535MB 8.5ms IDE	***$405***
Quantum LPS270A 270 MB 12ms IDE	$220
Quantum LPS540AT 540MB 12ms IDE	$460
Western Digital WD2200 212MB 14ms IDE	$198
Western Digital WD2250 250MB 14ms IDE	$215
Western Digital WD2340 340MB 13ms IDE	$259
Western Digital WD2420 420MB 12ms IDE	$310
Western Digital WD2540 540MB 12ms IDE	$460
Conner CP30350 340MB 12 ms SCSI	$320
Conner CP30540 540 MB 12 ms SCSI	$495
Conner CPF1060S 1.06 GB 9 ms SCSI 256K	$765
Fujitsu M2623SA 425MB 11ms SCSI	$520
Fujitsu M2624F 520MB 11ms SCSI	$550
Fujitsu M2694SA 1.0 GB 10ms SCSI	$860
Fujitsu M2654SA 2.0 GB 12ms SCSI	$1445
Maxtor MXT-340S 340 MB SCSI	$345
Maxtor MXT-540S 540 MB 8.5ms SCSI	$595
Maxtor MXT1240S 1.2GB 8.5ms SCSI	$1190
Quantum LPS525S 525MB 13ms SCSI	$510
Quantum 1.2 GB PD1225S 10ms 512K SCSI	$935
Quantum 1.8 GB PD1800S 10ms 512K SCSI	$1200
Toshiba 1.2GB MK538 12ms 512K Cache SCSI-2	$880
Teac1.2MB Floppy Drive	$46
Teac 1.44 Floppy Drive	$37

VIDEO CARDS

ATI Graphics Ultra Pro1MB/2MB(ISA)	$244/$306
ATI Graphics Ultra Pro 1MB/2MB(VLB)	$256/$335
ATI Graphics Ultra Pro 1MB/2MB(EISA)	$290$355
ATI Graphics Ultra Plus 1MB/2MB	$198/$228
ATI Graphics Ultra w/1MB & Mouse	$152
Cirrus Logic CL-GD5420 w/1MB	$58
Cirrus Logic CL-GD5426 /5428 VLB w/1MB	$87/$98
Diamond Speed Star Pro (ISA/VLB) 1MB	$105
Diamond Stealth 24 VLB w/1MB	$140
Diamond Stealth Pro VRAM 1MB/2MB	$235/$306
Diamond Viper VLB w/2MB	$354
Diamond Viper PCI w/2MB	$405
Genoa 8500VLB w/1MB	$94
Matrox Ultima 2MB VRAM	$570
Matrox Impression 3MB VRAM	$770
Matrox PCI 2MB/2MB PLUS VRAM	$508/$575
Number 9 level 10(ISA)	$293
Number 9 lever 11/12(ISA/VLB)	$361/412
Orchid Fahrenheit VA801 w/Sound	$146
Orchid Fahrenheit VLB w/1MB	$146
Orchid ProDesigner IIS w/1MB	$130
Orchid Celsius VLB 1MB/2MB	$190/$260
Trident 9000A w/256K	$31
Trident 9000A w/512K	$38
Trident 8900CL w/1MB	$58
Trident VLB 1MB	$75
ET 4000 Tseng lab ISA	$86
ET 4000 Tseng lab VLB	$115

Best Prices! Best Quality! Best Service!

CALL FOR UPDATED PRICES

LAITRON COMPUTER WEEKLY SPECIALS

Multimedia 486SX-25/128K

- 2 VESA Local Bus Board
- Intel 80486SX-25CPU
- NEC Double Speed CD-ROM
- Pro Audio Spectrum 16
- Deluxe Speaker
- 4MB RAM 70ns
- 1.2 &1.44 Floppy Drive
- IDE/IO 2FD/2HD/2S/1P/1G
- 200MB IDE HD
- Enhanced 101-key Keyboard
- Cirrus Logic VLB SVGA w/1MB
- 1024x768 .28dp SVGA Monitor
- Medium Tower Case
- 250-Watt Power Supply

$1339

Multimedia 386DX-40/128K

- AMD 386DX-40 CPU
- Sound Blaster Pro Sound Card
- Panasonic CD ROM
- Deluxe Speaker
- 4MB RAM 70ns
- 1.2 &1.44 Floppy Drive
- IDE/IO 2FD/2HD/2S/1P/1G
- 200MB Hard Drive
- Enhanced 101-key Keyboard
- Cirrus Logic SVGA w/1MB
- 1024x768 .28dp SVGA Monitor
- Mini Tower Case
- 230-Watt Power Supply

$1149

386DX-40128K

- AMD 80386DX-40 CPU
- AMI BIOS & MATH-Co Socket
- Internal Clock Battery
- 4 MB RAM 70ns
- 1.2 MB Floppy Drive
- 1.44 MB Floppy Drive
- IDE 2FD/2HD Controller
- AT I/O 2S/1P/1G
- 200MB IDE HD
- Enhanced 101-key Keyboard
- Trident SVGA with 512K
- SVGA .28dp VGA Monitor
- Mini Tower Case
- 230-Watt Power Supply

$839

IBM SLC2-66/64K

- IBM 486SLC w/Math-Co
- 2 VESA Local Bus Board
- AMI BIOS Internal Clock Battery
- 4 MB RAM 70ns
- 210MB HD
- Teac 1.44MB Floppy Drive
- Teac 1.2Mb Flopppy Drive
- IDE 2FD/2HD Controller
- AT I/O 2S/1P/1G
- Cirrus Logic VLB/1MB
- SVGA .28dp SVGA Monitor
- Enhanced 101K Keyboard
- Mini Tower Case

$1079

KEYBOARDS

Enhanced Keyboard	$17
Focus 2001	$33
Focus 7000 w/trackball	$45
Foucs 9001	$54
Keytronic101-Key	$30
Maxiswitch 101-Key	$28
Maxiswitch 124	$65
Metek K208 101-Key	$22
MetekK104101-Key Click	$42
Mitsumi 101-Key	$26
Northgate Omni 101/102	$65
Northgate Omni Ultra	$92

CONTROLLER CARDS

IDE4FD/HD	$34
IDE2FD/2HD/2S/1P/1G	$12
Promise DC-99M IDE w/512K Cache	$115
Promise DC-200 IDE Cache w/4HD/2FD	$95
Promise DC-4030 VLB IDE Cache w/4HD	$126
Promise IDE/IO VLB	$25
TecoCache VLB IDE w/4HD/2FD	$175
Adaptec 1522/1522K SCSI	$88/$138
Adaptec 1542C/1542CK SCSI	$175/$230
Adaptec 1742 EISA SCSI	$250
Adaptec 2742TK EISA SCSI	$355
Adaptec 2842 VESA SCSI Controller	$280
BusLogic BT445S VLB SCSI-II	$258
BusLogic BT545KT BusMaster SCSI	$235
BusLogic BTB742KT EISA SCSI-II Kit	$275
BusLogic BTB747AK EISA SCSI	$380
DTC 3290 HD EISA SCSI	$418
DTC 2290 EISA IDE	$118
DTC 2280 ISA IDE	$15
DTC 2270 VLB IDE	$92
Future Domain TMC950 SCSI w/IDE	$55
Ultrastor 24F EISA SCSI	$365
Ultrastor 34F VLB SCSI	$250

MOTHERBOARDS W/CPU

AIR 486-33/DX2-66 256K 3VLB(ZIF)	$420/$610
AIR 486-33/DX2-66 256 EISA, 3VLB(ZIF)	$600/$790
Asus 486DX-50/256K w/2VLB(ZIF)	$540
Asus 486DX2-66/256K w/2VLB(ZIF)	$585
Asus PCI 486DX2-66/256K w/SCSI & IDE	$800
Diamond 486DX2-66/256K w/2VLB	$715
IBM SLC2-66/64K w/2VLBw/Math	$285
IBM SLC2-50	$175
Nice 486DX2-66/256K EISA/VLB(ZIF)	$700
Nice 486DX-50/256K EISA/VLB(ZIF)	$650
Nice 486DX-33/256K EISA/VLB(ZIF)	$500
MicroStar 486DX2-66/256K w/2VLB(ZIF)	$595
MicroStar 486DX-33/128K w/2VLB(ZIF)	$380
Pentium 60 VLB 256K	$1340
486DX-33/128K w/2VLB	$355
486DX2-66/256K w/2VLB	$570
486DX-50/256K w/2VLB	$510
486DX-40/128K w/2VLB	$340
486SX-25-128K w/2VLB	$180
486DX-33/64K ISA	$350
486DLC-40/64K	$142
386DX-40/128K	$115
386SX-33	$75

POWER SUPPLY & CASE

200/230WPower Supply	$35/$40
250WPower Supply	$55
300WPower Supply	$65
DesktopAT Case w/200W Power Supply	$54
Mini-TowerCase w/200W Power Supply	$51
MediumTower Case w/250WPS	$82
Full-Size Towercase w/250WPS	$112
SuperTowerCase w300WPS	$165
UPS600VA	$250

NETWORK

3COM Etherlink II 16 bit coax/TP	$149/$159
3COM Etherlink III coax/TP	$130
INTEL EtherExpress 16 coax/TP	$110
INTEL EtherExpress 32 EISA	$425
SMC plus Elite 16 coax/TP	$115
SMC Elite 16 combo	$125
SMC Elite 32 bit coax/TP	$570
8 Bit ethernet cards (NE1000 Compatible)	$42
16 Bit ethernet cards coax/TP	$47
16 Bit ethernet cards (3-in 1 combo)	$52
16 Bit ethernetcards(pocketfornoteBbook)	$148
16 Bit busmaster (NE2100 Compatible)	$88
Ansel P-NS2000-BA 10 BASE -2 & AUI	$98
Ansel P-NS2000--TA 10 BASE-T&AUI	$88
Ansel P-NS2000-3 10 BASE-T &2&AUI	$118
Arcnet 8-port Active Hub	$118
Arcnet Bus Topology 8 Bit ISA Card	$48
Arcnet Bus Topology 16 Bit ISA Card	$58
Arcnet Star Topology 8 Bit ISA Card	$48
Arcnet Star Topology 16 Bit ISA card	$58
Hub and Repeasters 4 port 10 base THub	$148
hub and Repeaters 6 port 10 base T Hub	$208
Hub and Repeaters 12-port 10 base THub	$438
Daughter Card 4 Additional RJ 45 port	$68
Daughter Card BNC+AUI PORTS	$58
2 BNC Ethernet Repeater	$198

MULTIMEDIA

CreativeLabsMIDI Kit	$42
Creative Labs SoundBlaster Deluxe	$82
CreativeLabsSoundBlaster Pro Deluxe	$114
CreativeLabsSoundBlaster 16	$145
CreativeLabsSoundBlaster16 SCSI-2 W/ASP	$180/$205
CreativeLabsSoundBlaster16 MulitCD W/ASP	$165/$195
Creative Labs VideoBlaster	$260
Creative Labs WaveBlaster	$175
CreativeLab Video Spigot Windows	$305
CreativeLabs Discovery CD 8 Upgrade Kit	$370
MediaVision Pro 16	$88
MediaVision Pro Audio Spectrum 16	$125
MediaVision Pro Audio Studio 16	$155
MedisVision Pro Audio Spectrum 16 External Kit	$45
MediaVision Pro Movie Spectrum	$275
MediaVision Pro MovieStudio	$320
MediaVision Pro 16 Multimedia System	$770
MediaVision Pro16 Multimedia System II	$825
MediaVision Subsystem CDPC XL	$1065
MediaVision Fusion CD 16	$465
MediaVision Fusion Double CD 16	$575
NEC Multimedia Upgrade Kit	$750
Labtec Speakers	$25
Zoltrix Deluxe Speakers	$15

MODEMS

DataSystem Pocket Size14400 Fax/Modem	$200
Digicom 14400 Fax/Modem Sofeware Upgarable	$119
Siig External14400 Fax/Modem	$150
Siig 14400 Fax/Modem w/16550 internal	$130
Zoltrix 2400 Internal Modem	$27
Zoltrix 9600/2400 Internal Fax/Modem	$48
Zoltrix 9600/2400 Int. Fax/Modem (Windows)	$53
Zoltrix 14400 Internal Fax/Modem	$130
Zoltrix 14400 External Fax/Modem	$150
US Robotics 14400/14400 Int. Fax/Modem	$149
US Robotics 14400/14400 Ext. Fax/Modem	$162
WANG 9600/2400 EXT .FAX/MODEM	$85
INTEL 400 INT 144/144 V.42 ,V.32 bis,MNP5	$375
INTEL 14400/14400 FAX/Modem Int	$155

TAPE BACKUP

3M DC2120 Tape	$18
Colorado AB-11 External Tape Port	$38
Colorado DJ-10 120MB Tape Backup	$93
Colorado DJ-20 250MB Tape Backup	$149
Colorado FC-10 Tape Backup Controller	$85
Colorado TC-15 Controller w/Compression	$185
Colorado PT-252GB Int. Tape Backup	$970
Colorado PT-25E 2GB Ext. Tape Backup	$1115
Colorado PT-50 4GB Int. Tape Backup	$1475
Colorado PT-50E 4GB Ext. Tape Backup	$1635
Colorado Trakker120MB Ext. Tape Backup	$280
Colorado Trakker250MB Ext. Tape Backup	$325
Conner 250 MB Internal w/Tape	$140
Iomega 250MB Insider Int. Tape Backup	$185
Summit SE250 250MB Int. Tape Backup	$158

MEMORY & CHIPS

1MBx3 SIMM 60ns	$40
1MBx3 SIMM 70ns	$38
4MBx3 SIMM 60ns	$153
4MBx3 SIMM 70ns	$150
1MBx36 SIMM 70ns	$160
2MBx36 SIMM 70ns	$320
4MBx36 SIMM 70ns	$600
Cyrix387DX-40	$60
Cyrix387DX-33/25	$58
Cyrix 387SX-25/20/16	$62
Intel80387DX-33/25	$75
Intel80387SX-25/16	$70

CPUs & Memory.......Please call for new daily updated prices

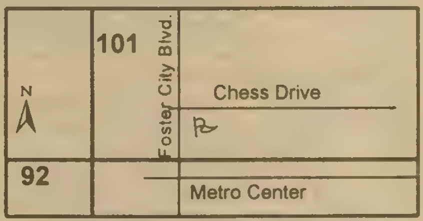
SOFTWARE

CentralPoint Anti-Virus	$15
Lotus1-2-3 for Windows	$290
Microsoft DOS 6.2 (w/System Purchase)	$45
Microsoft Excel 4.0 for Windows	$260
Microsoft Office 4.0 for Windows	$460
Microsoft Office 4.0 Upgrade	$290
Microsoft Project 3.0 for Windows	$410
Microsoft Word for Windows	$265
Microsoft Windows 3.1 (w/System Purchase)	$45
Microsoft Windows 3.11	$70
PFS Works for Windows	$45
Wordperfect 6.0(DOS)	$265

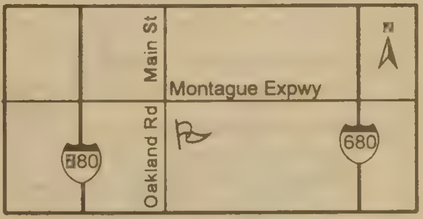
LAITRON COMPUTER

HOURS:

9:00 AM TO 6:00 PM M-F
10:00 AM TO 4:00 PM SAT



1169 Chess Drive, Suite E
Foster City, CA 94404
Tel: (415)578-8998
Fax: (415)578-8880



1538 Montague Expressway
San Jose, CA 95131
Tel: (408)321-9488
Fax: (408)321-8349

Terms & Conditions:

- One year parts two years labor waranty
- Prices and availability subject to change without notice
- Shipping, COD, & insurance are extra and not refundable
- Prices reflect cash discount
- All returns must have prior authorization
- All returns must be in original packaging complete with manual, software,...etc.
- 15% restocking charge
- Not responsible for typos on this ad

Now View Photographs On Your Computer.

Kodak Photo CD Transfer Service
Now in San Francisco!

Photographic Quality Images

If you ever had to scan photos for use in your documents, presentations or animations, you'll love Kodak's Photo CD. You get the quality and resolution you'd get from a professional scanner costing thousands of dollars! Have your 35mm negatives or slides transferred into a Photo CD. Each CD stores up to 100 images.

Use the CD with your CD ROM drive on your computer to work with high quality images in your favorite photo editing program in applications as varied as Re-Touching, Composition, Color Pre-Press or Ad Layout. It's easy to find the pictures you want, because we include an index print of each picture on the Photo CD Disc.

WE'VE MOVED...

Come see our new larger location and take advantage of our limited time offer. $10 off your first Photo CD transfer. Take those holiday pictures and capture the moment on CD and turn your new year into one that will last forever. See details below!

INTRODUCTORY OFFER $10
Off on your first Photo CD Transfer
Minimum $20 order.
First time customers only.
Present coupon at time of order.
Not to be combined with any other offers.
Expires 4/4/94

Your Pictures Have Never Been So Powerful!

ITS•CD IMAGE TRANSFER SYSTEM

New Location...
Tel: 415-668-4688 • Fax: 415-668-4689
1845 Haight Street, San Francisco, CA 94117
(Next to Photo Motion, Near Stanyan St.)

Windows for Japan
日本語でどうぞ。

1.0 Monthly Special
Japanese New DOS: MS-DOS6.2/V Upgrade: Only $97
Japanese: MS Access Japanese 1.1: Only $209
Floppy Diskett: (Min 200pcs) Only $0.3
Diamond Sonic Sound LX: Only $120
GVC External Modem 14.4Mbps Data/Fax: Only $139
Mouse (Logitec C-14) Only $22
Toshiba CD-ROM 200ms, 150/300kbs, SCSI Only $349

2.0 Japanese Software at Special Discount!
Windows 3.1J (CD-ROM): $159 Page Maker 4.0J Windw: $990
Windows 3.1J (Floppy): $169 Lotus AmiPro 3.0J: $619
MS Word 5.0A Windows: $499 MicroGrafax WinDraw 3.0Jpn $306
MS Exel 4.0J Windows: $459 Adobe ATM 2.5 Kanji-Window $249

3.0 Mother Board w/o CPU
Air 486UL VESA w/256 Cache $199

4.0 DOS-V installed System DOS-V教室（ﾍﾞｲｴﾘｱ対象、募集中）
486SX25 System, 128k Cache, 4M, Conner 200MB, JP106Key Board, 3.5"FDD, SVGA Board 1M, Baby AT Case w/200wp.s., mouse, IDE w/P+S+S+G,DOS/V, Japanese Window, Japanese Word installed Ready to use: ONLY$1,799.
486DX2-66 System, 256k Cache, 8MB RAM, 340MB, Air486UL VESA, 101 Key Board, 3.5" FDD, Diamond Stealth 24 1MB, Minitower, Intrfce P+S+S+G, Mouse, DOS/V, Japanese Windows, Japanese Word installed, Ready to use:: Only$2,499

5.0 Reports: Must Read
Japanese Electronics Industory Investments and R&D Organization in the United States (Full Color, English,325 Companies, artiled in Scientific America):$4,800

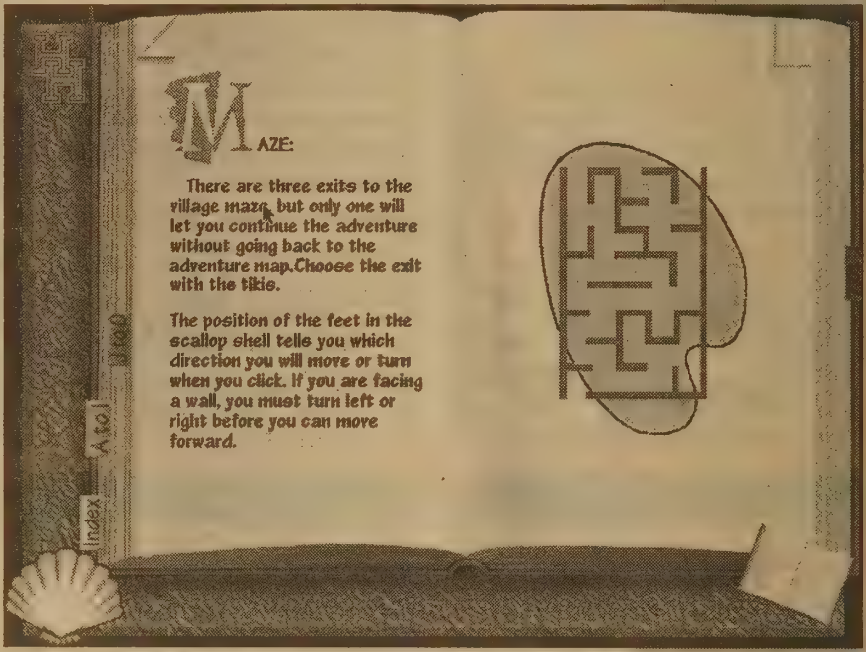
6.0 OEM/Subcontract Manufacturing
$1-5/Hr in Data General Thailand

7.0 We buy used CPU(i486DX2-66) & SIMM

Terms & Conditions: Price & Company policy subject to change w/o notice. Price reflects cah discount. Not responsible for typographical errors.

BigBang Technology, Inc. DOS-V-日本直送可！
Call:408-453-0110, FAX:408-453-9115 ｸﾚｼﾞｯﾄｶｰﾄﾞ OK！
1425 Koll Circle, Suite 102, San Jose, CA95112

make the wrong choices, Jennifer and Maleah's adventure ends. When this happens, a screen appears with "The End…or is it?" Your ability to get back into the game easily at this point is one of the title's strongest features. Clicking on the HH icon at the top left of the screen takes you to the main menu from which you can select "Adventure," which displays a plot map with your path so far indicated by a series of octogons, each enclosing a miniature scene. If you haven't been to an area, the octogon is blank. You can reenter the story at any previously visited point. If you see that you've missed one of the sidetracks, you can go back to explore that sidetrack or, if you want to take the alternative story route, you can go back to where it splits. Unlike most games, this is available without having saved the game. If you want to quit and come back later, saving the game will preserve your progress and you'll be able to reenter at any earlier plot point.



MAZE:

There are three exits to the village maze, but only one will let you continue the adventure without going back to the adventure map.Choose the exit with the tikis.

The position of the feet in the scallop shell tells you which direction you will move or turn when you click. If you are facing a wall, you must turn left or right before you can move forward.

An important technique in this medium for involving the user in an imaginary world is the use of interactivity provided by puzzles, other brain teasers, or tests of hand-eye coordination. The Mystery of the Tiki has several of these, including a couple of mazes, clicking on animals' eyes shining in the dark to reveal them, a game of concentration to match like pairs of hidden objects as you uncover them, matching shapes, and a quiz on Hawaiian facts. If you fail at these, you get the "The End…or is it?" screen. With the exception of one of the mazes, all these tests seem to be on the easy side. One difficulty with this aspect of the title is that what might be too difficult for an eight-year-old would be too easy for a twelve-year-old. The solution would be to provide an option for different age levels. A good feature is that there is a random element to the games so that the puzzles or routes through the mazes are not the same every time you play.

One other form of interactivity present is the use of "hypertext" material designed to reveal facts about Hawaii beyond what occurs in the main course of the narrative. This happens in the school library where

BCS★A

BAY COMPUTER SYSTEM OF AMERICA

SERVICE & QUALITY MAKE THE DIFFERENCE!

5 YEARS LABOR & 1 YEAR PARTS WARRANTY ON ALL SYSTEMS

486DX-33/50/66 Mhz 270MB SVGA Systems

INTEL 486-33/50/66 DX2 CPU
256K Cache
4MB RAM 70 NS (UP TO 32 MB)
1.2 & 1.44FD ·
270 MB HARD DRIVE (13MS)
2FD/2HD IDE CONTROLLER
2S, 1P, 1 GAME PORT
SVGA CARD W/1MB
101 ENCHANCED KEYBOARD
SVGA MONITOR (.28 DP 1024X768)
MINI TOWER CASE W/230 WPS
MS COMPATIBLE MOUSE

COMPLETE

$1335/$1485/$1555

VESA LOCAL BUS 486DX-33/50/66 Mhz

345MB SVGA Systems

INTEL 486-DX CPU
256K CACHE (up to 1MB)
4MB RAM (70 NS UP TO 32 MB)
1.2FD & 1.44FD
345 MB IDE HD (15 MS)
VL IDE CONTROLLER
2S, 1P, 1 GAME PORT
VL WIN ACCELERATOR CARD W/1MB
SVGA MONITOR (.28 DP 1024X768)
101 ENHANCED KEYBOARD
QUALITY CASE W/230 WPS
MS COMPATIBLE MOUSE

COMPLETE

$1429/$1579/$1649

SUPER PENTIUM POWER!!

PENTIUM 60MHz
16MB RAM 70ns EXPANDABLE
540MB HARD DRIVE
VL IDE CONTROLLER
VL WIN ACCELERATOR CARD W/1MB
SVGA NI MONITOR 72Hz REFRESH RATE
2 S, 1P, 1 GAME PORT
FULL TOWER CASE W/250 WPS
101 KEYBOARD
MS COMPATIBLE MOUSE

COMPLETE

$3199

MULTIMEDIA

CREATIVE LAB	
Sound Blaster Pro Deluxe w/titles	$120
Sound Blaster MCD	179
Creative Lab Multimedia Kit	499
MEDIA VISION	
Pro Audio Spectrum 16	$149
Pro Audio Studio 16	179
Fusion Double 16 CD Kit	499
Sound Galaxy w/Speakers	69
NEC Triple Speed CD-ROM	449
Philips Double Spin CD ROM Drive	199
Texel Double Speed CD-ROM	329
Trantor SCSI Controller	59
Labtec Stereo Speakers	from 20
Joystick	from 15

CASES

Mini Tower Case w/230PS	$50
Baby AT Case w/230 PS	53
Mid Tower w/230 PS	69
Big Tower w/250 PS	89

VIDEO OPTIONS

MGP Card	$17
Trident 8900 w/1M	65
Tseng ET 4000 w/1M	85
Paradise w/1M	89
Diamond Speedstar Pro ISA/VL	110
Diamond Stealth 24 ISA/VL	155
Diamond Viper VL w/2M	369
ATI Ultra Pro w/1M/2M	279/349
VGA Card w/256K Ram	35
Orchid Fahrenheit w/VA w/1M	179

KEYBOARDS

Maxi Nova 101	$28
Maxi Switch 101	39
Keytronic 101	39
Focus 9000	69
Northgate Omni 101/102	75
Chicony 101 w/Trackball	79

HARD DRIVES

270MB Hard Drive	$270
340MB Hard Drive	285
540MB Hard Drive	479
1.0 GB HD	799

CALL FOR OTHER DRIVES

MONITORS

MAG 15F	$510
Amber 14"	99
VGA Mono	119
SVGA 1024x768 .28DP	259
SVGA NI 1024x768 .28DP	275
ADI 4GL	430
NEC 3V 15"	589
NEC 4FGe 15"	789
Nanao F680iw 21"	2299

CONTROLLER CARDS

IDE Controller 2FD/2HD	$18
IDE I/O Controller	20
MFM F/D 1:1 Controller	55
VL IDE I/O Controller	30
VL IDE I/O w/1MB WIN Accl	95
SCSI II Adaptec VL/Kit	309
SCSI II VL DTC	125
SCSI VL Promise cache	185

MOTHERBOARDS

386-33SX	$99
386-40DX W/128K CACHE	125
486-33/50/66 DX	399/559/609
486-25 SX	190

SOFTWARE

MS Works	$89
Turbo Tax	40
MS Publisher	95
Quickbook	99
Carmen San Diego	39
7th Guest CD	39
Shareware CD	29
Other Software & CD's	CALL

MISC

Conner 250M Tape Back-up	$160
US Robotics 14.4 Fax Modem	155
Boca 96/24 Fax Modem	69
Intel 14.4 Fax Modem	165
Various Cables/Adapters	CALL

MOUSE

Logitech Mouseman	$55
Logitech Trackman	88
Logitech Ball Point Mouse	65
Kensington Expert Mouse	99
Microsoft Mouse	49

THIS MONTH'S SPECIALS!

HEAT SINK W/FAN	$13
ALL IN ONE NETWORK CARD	$65
MS-DOS 6.2 UPGRADE FOR DUMMIES	$49
COLORADO 250MB TAPE BACKUP	$165
NANAO F550i 17"	$850*
Boca 14.4 FAX/MODEM	$139
101 KEYBOARD	$20
PRINTER AUTO SWITCH	$19

*After Rebate

BCS★A

C O M P U T E R S

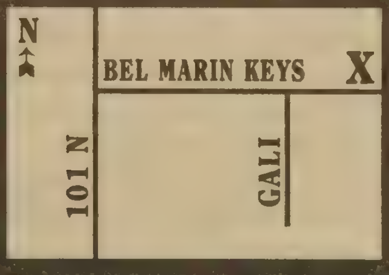
8A Commercial Blvd, Novato, CA 94949
Hours: M-F 10:00 am-5:00pm SAT 11:00am-4:00pm

Tel: (415) 883-7392

Fax: (415) 883-8104

MasterCard

VISA



·Dealer Inquires Welcome · ·Volume Discount Available · ·Price subject to change w/o notice · ·Trademarks are registered by respective companies books and videos can be taken off the shelves and in the classroom scene where clicking on words on the blackboard causes information to be revealed. There is also a red book graphic always present in the lower right corner of the screen. If this is dragged to the appropriate object, it opens to an entry about that object. Once the book is open, you can turn the pages or use the index to find entries you're interested in. The problem with this scheme is that you have to drag the book to the right place to open it. The information presented is of good quality with some depth and seems well suited to the intended age group. I thought that not enough of it was actually needed for getting through the game, although this may only be because, at my advanced age, I already have the general background knowledge that a child would pick up from it and find useful in understanding the story.

> Sanctuary Woods has chosen to market multimedia games for home computers that attempt to teach values other than ripping the heads off one's opponents. It is also one of very few that market a computer game specifically for girls.

SEXISM?

I have a similar handicap in evaluating the title from the viewpoint of a girl.

I asked an adult, self-confessed fan of video games of the head-ripping variety, Candice Pacheco of D'Cückoo, for her opinion. It was swift and cruel. She thought The Mystery of the Tiki was sexist and perpetuated stereotypes. I can see her point. The theme song is about Waikiki where "the golden sands attract the cutest boys." Jennifer has an overdeveloped taste for pink clothing and is afraid of the big waves in the surfing scene. It's true that she's fresh from New York City, but her island-bred companion, Maleah, doesn't surf either while the boys are happily riding the waves. There are also lots of girlish giggles and fluttering of eyelashes.

On the other hand, in the course of the story, the characters of the two girls develop while the male villains remain little more than stereotypes. The girls exercise initiative by setting off on their adventure together, leaving their homes in the middle of the night. They face perils and challenges that they successfully overcome. Boys could take offense from a sly dig at boys when a beachball bounces off a boy's head with a hollow boink, while it makes a normal thump sound when it bounces off a girl's head. Lawyers might take offense at the end of the story when one of the defeated villains declares, "I'm going back to school to become a lawyer."

I find sexism possibly more apparent when comparing The Mystery of the Tiki to the other Sanctuary Woods series, the Victor Vector & Yondo games for boys in the same age group. This is because the boys' games are considerably more difficult and complicated than the girls' title, requiring much more skill to complete. In addition, the boys get to fight! It's pretty tame stuff compared to most on-screen violence, and intelligence rather than brute force generally determines the outcome. This may just be marketing, but marketing is a way of catering to people's prejudices and tastes without actually changing anything that may well need changing. The juxtaposition of Hawaii High with Victor Vector & Yondo shows that there's more to making the world a better place than simply producing a multimedia product for girls.

VICTOR VECTOR & YONDO

I also looked at two Victor Vector & Yondo titles, The Hypnotic Harp and The Cyberplasm Formula. The Cyberplasm Formula is the later produced of the two, and clearly much had been learned from the earlier production. The graphics are much improved and the indication of active screen areas and the general navigational design are also better, although still subject to the comments above concerning The Mystery of the Tiki. The use of a plot map would be a further improvement. The plot and the game playing are also more satisfactory and sophisticated than in The Hypnotic Harp. The educational parts of the "edutainment" aspects of either title are considerably slimmer that those found in The Mystery of the Tiki.

TECHNICAL DETAILS

All three titles run on either Macintosh or MPC machines with both a hard-disk drive and a CD-ROM drive. Requirements for Macintosh machines are 4 MB of RAM, System 7.0 or later, and a 13" monitor or larger set at 256 colors. MPC requirements are a 386SX processor or higher, 4 MB of RAM, Windows 3.1 or higher, Super VGA monitor (640 x 480, 256 colors), and a sound card. The suggested retail price for all three titles is $39.95. Sanctuary Woods are at 1875 South Grant Street, San Mateo, CA 94402; (415)578-6340, 1-800-872-3518. ■

HKG COMPUTERS
Hardware Knowledge Group, Inc.

$0 DOWN
90 DAYS SAME AS CASH

INSTANT CREDIT!

On Approval Of Credit
1 YEAR PARTS & LIFETIME LABOR WARRANTY!

HKG Complete Systems

	Cache	VLB Slots	ISA Price	VLB Price
386SX-33	-	-	$659	-
386DX-40	128K	-	$705	-
486DLC-33	128K	-	$725	-
i486SX-25	256K	3	$769	$829
i486DX-33	256K	3	$975	$1,035
486DX-40	256K	3	$975	$1,035
i486DX-50	256K	3	$1,129	$1,189
i486DX2-66	256K	3	$1,179	$1,239

All Systems Include:

- 120 MB Hard Drive
- 1 MB RAM
- VLB 1 MB SVGA Card (512K For ISA)
- I/O (2 Serial, 1 Parallel, 1 Game Ports)
- 14" SVGA Color Monitor
- 1.44 MB Floppy Drive
- 32-Bit IDE (16-Bit for ISA)
- 101 Enhanced Keyboard
- Mini-Tower Case
- 1 Year Parts & LIFETIME Labor Warranty

IBM PS/Value Point

- 4 MB RAM
- SVGA Local Bus Video
- 1.44 MB Floppy Drive
- 120 MB Hard Drive
- 101 Keyboard
- 2-Button Mouse
- DOS 6.1
- Windows 3.1

intel inside

IBM

486SX-25	$1,095
486DX-33	$1,465
486DX2-66	$1,885
and more	CALL

ThinkPad Notebooks

350 (Mono/4MB/250MB)	$CALL
350C (Color/4MB/125MB)	$CALL
750C (Active Color/4MB/170MB)	$CALL

24 Hrs/Day Customer Support Hotline
1 Year Next-Business-Day On-Site Service by IBM!

PERIPHERALS AND ACCESSORIES

MONITORS

14" SVGA .38dp	$210
14" SVGA .28dp	240
14" SVGA .28dp NI	265
15" Impression 5, 1280x1024, .28dp, NI	375
17" Impression 7, 1280x1024, .28dp, NI	890
14" ViewSonic 4E	275
14" ViewSonic 6E, NI	299
17" ViewSonic 17 NI	999
17" KFC 1713, 1280x1024, .26dp, NI	780
15" NEC 3FGe	599
15" NEC 4FGe	709

HARD DIVERS

80 MB IDE	$169
130 MB IDE	189
170 MB IDE	199
213 MB IDE	219
245 MB IDE	239
340 MB IDE	289
540 MB IDE/SCSI	CALL
1.2/1.7 GB	CALL

VIDEO CARDS

Trident 512K	$38
Trident 1MB	60
Cirrus Logic SVGA VLB 1MB	75
Avance Logic SVGA VLB 1MB	95
Spider SVGA VLB 1MB	100
Spider Black-Widow VLB 1M/2M	230/320
Diamond SpeedStar Pro ISA/VLB	125
Diamond Stealth ISA/VLB	160
Orchid Fahrenheit VLB 1MB	165
ATI Graphics Ultra Plus 2M	249
ATI Graphics Ultra Pro 2M	365

PRINTERS

Brother HJ-400 Ink Jet :	$295
Panasonic 1123	210
Panasonic 2123	245
Panasonic KX-P4410	599
HP Laser 4/4L/4M	1369/699/1899
HP 500/500C/550C	299/399/599

MISC.

2400B Modem	$29
Fax/Modem (9600/2400) Int	49
Fax/Modem 14,400/14,400 Int/Ext	124/145
Colorado Tape Back-Up 250 MB	169
Conner/Archive Tape Back-Up 250 MB w/Tape	165
Ethernet Card 16-Bit	80
Logitech Scanman 32 w/OCR Software	139/185
Logitech Scanman 256 w/OCR Software	249/299
3 Button Mouse	15
Logitech First Mouse/MouseMan	40/65
1.2/1.44 MB Floppy Drive	50
Chicony 101 Enhanced Keyboard	20

MULTIMEDIA

AT-Bus Pak

$379

- Panasonic 562 CD-ROM Drive (Double Speed, 300KB's)
- SoundBlaster 16 MCD Sound Card
- Encyclopedia CD-ROM
- Voice Recognition Software
- Pair Of Magnetic Shielded Speakers

SCSI Pak

$569

- Toshiba 3401B SCSI CD-ROM Drive (Double Speed, 300KB's 200ms)
- SoundBlaster 16 SCSI Sound Card
- Encyclopedia CD-ROM
- Voice Recognition Software
- Pair Of Magnetic Shielded Speakers

Others

• SoundBlaster 16 MultiCD (NEW) Encyclopedia CD-ROM Voice Recognition Software	$169
• SoundBlaster Pro Deluxe	125
• SoundBlaster 16 Basic	140
• Panasonic 562 CD-ROM	209
• Toshiba 3401B CD-ROM	369
• 25W Power Amplified Speakers	45
• 80W Power Amplified Speakers	69
• Twin Sound Internal Amp. Speakers	59

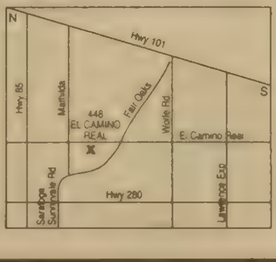
HKG COMPUTERS
Hardware Knowledge Group, Inc.

M-F: 10am-7pm
Sat: 10am-7pm
Sun: 11am-6pm

Corporate PO's Welcome

448- EAST EL CAMINO REAL
SUNNYVALE, CA 94087

(408)-SEEK-HKG (733-5454)
Fax: (408) 733-5456



MasterCard

Prices Subject To Change W/O Notice

VISA

Gulch Gossip

By Jonathan E.

The arrival in San Francisco of **C/NET**, the new cable TV network-to-be of cyber-techno news, has the digerati jumping up and down, losing their vertical hold with excitement. **Kevin Wendle**, head of programming and marketing, explains that "C/NET aims to be the center of the digital universe." He laughs, "That's perhaps a little conceited—but we want our headquarters to be where the greats pass through." The headquarters are in the old Victoria Station HQ at 150 Chestnut Street, with 35-foot ceilings and a little train still to be seen outside. Details of the launch are currently being finalized, but Wendle says that four pilots are in production with more to be announced in April or May. Initially, the launch will be what's called a "nested launch" with a two-hour block of programming on an existing cable channel. Eventually, in three to five years, C/NET plans to be a fully fledged cable network of its own. What is certain is that **Adam Curry** of MTV fame is signed for a host spot; Wendle promises that "other well-known names will shortly be onboard." C/NET could become a significant outlet for the Bay Area's digital artistic ferment.

▼ ▼ ▼ ▼ ▼

Kevin Krejci of **Pop Rocket** called to jokingly announce that *Total Distortion*, Pop Rocket's imaginative CD-ROM-based, music video-remixing, adventure game, is scheduled for completion on April Fools' Day, which this year happens to also be Good Friday. Pop Rocket is an affiliate label of **Electronic Arts**, which will handle the distribution while Pop Rocket manages its own packaging and marketing. International deals for the Japanese and European markets are in the final stages. Pop Rocket intends to concentrate on other music video-related products in the future. ... **Joe Sparks**, Pop Rocket's head honcho, is also embroiled in litigation with **Michael Saenz** of **Reactor, Inc.** over whether the work he did on the *Spaceship Warlock* game was done as an employee or not. If not, Sparks will gain joint ownership of the copyright and get his share of the profits. To avoid going through this kind of ordeal yourself, I suggest that multimedia developers and contractors consult *Multimedia Law Handbook*, a new guide to the many and complex legal issues surrounding this medium. In addition to discussion of employee-contractor issues (including the Sparks-Saenz case), the book has extensive coverage of licensing requirements, protecting your own intellectual property rights, sales law, distribution agreements, the roles of publishers and developers, and appendices of organizations, stock content providers, publications, and legal forms. Many short, hypothetical examples make the underlying principles relatively easy to understand. *Multimedia Law Handbook* is not intended as a substitute for legal consultation, but is designed to save time and money by providing legal background to the non-lawyer. *Multimedia Law Handbook* is written by two lawyers, **J. Dianne Brinson** and **Mark F. Radcliffe**, and is available for $74.95 from Ladera Press, 3130 Alpine Road, Suite 200-9002, Menlo Park, CA 94025; 1-800-523-3721.

▼ ▼ ▼ ▼ ▼

George Pavlik of the **Downtown Center** of **San Francisco State University** reports that, as of mid-February, 890 students were enrolled in the fifty-three courses of the Multimedia program with final enrollment projected to be over one thousand students. This is better than twice as many students as last year and makes the Downtown Center the largest multimedia program in the world. There are students from Australia, New Zealand, and Saudi Arabia. A group of South Korean businessmen even queried the Center about setting up a program in South Korea. Call (415)904-7700 to find out about classes.

▼ ▼ ▼ ▼ ▼

John "Tex" Coate, much beloved for his work building up the community aspects of the **WELL**, known for "his penchant for communicating up-close and personal" (to quote **Howard Rheingold**), and recently with **CompuMentor**, is now working on **The Gate** (no, it's not an acronym), the planned online service of the *San Francisco Examiner* and *Chronicle*. Tex says, "We know the hardware we want and we're currently looking at the software. The service will feature the usual many-to-many communications, full Internet access, libraries of stored information, and some unusual transaction features for classifieds. We have an eye to developing multimedia capabilities with sight and sound. We'll keep it experimental and flexible." More importantly, Tex and **Hilarie Gardner** of the WELL will be married in Sebastopol on March 5. Congratulations and much happiness to them both.

▼ ▼ ▼ ▼ ▼

There's still a chance to immerse yourself in the Multimedia Playground at the Exploratorium through March 13. Organizer **Sarah Berg** was very happy with the opening weekend, which went very well for such an elaborate setup catering to so many people, especially since the whole project was pulled together in only two months. Visitors can use a CD-ROM library, see demonstrations by guest producers of the tools of the multimedia trade, check into the Internet, view a rotating selection of multimedia exhibits, or attend panel discussions. The weekend of March 12 and 13 features **Jeff Donovan** showing software he's developing called My World, allowing you to create objects for your own virtual world; **John Sanborn** demonstrating his QuickTime work; a panel discussion of the Information Superhighway; **Anne McCormick** with her new **Media3** project; and the grand finale of the CitySpace workshop. Further information from (415)563-7337. Berg continues to pursue her own **Digital Lounge** project, which is designed to make multimedia available to the public in a live setting on an ongoing basis. ■

Powerful 486 Notebooks . . . . . .

Texas Instruments TravelMate 4000e Computer

TI TravelMate 4000e Color

486DX2/50, 4MB RAM EXP. TO 20MB
VGA 640X480, TFT Active Color
1.44 Floppy Drive, 200MB HD, DOS6,
Quick Port Mouse, Windows 3.1

3659

486DX2/50, 4MB RAM EXP. TO 20MB
VGA 640X480, 9.5" Dual Scan Color
1.44 Floppy Drive, 200MB HD, DOS6,
Quick Port Mouse, Windows 3.1

$2959

486SX25, 4MB RAM EXP. TO 20MB
VGA 640X480, Dual Scan Color
1.44 Floppy Drive, 120MB HD, DOS6,
Quick Port Mouse, Windows 3.1

$1899

TI TravelMate 4000e Mono

486DX2/50, 4MB RAM EXP. TO 20MB
VGA 640X480, ext. 1024x768
1.44 Floppy Drive, 200MB HD, DOS6,
Quick Port Mouse, Windows 3.1

$2399

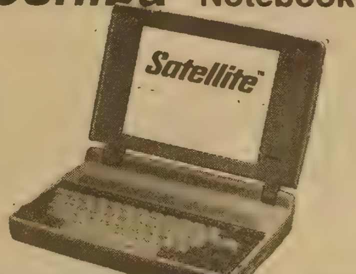
486DX25, 4MB RAM EXP. TO 20MB
VGA 640X480, ext. 1024x768
1.44 Floppy Drive, 120MB HD, DOS6,
Travel Point Mouse, Windows 3.1

$1959

486SX25, 4MB RAM EXP. TO 20MB
VGA 640X480, ext. 1024x768
1.44 Floppy Drive, 120MB HD, DOS6,
Quick Port Mouse, Windows 3.1

$1699

Toshiba Notebook

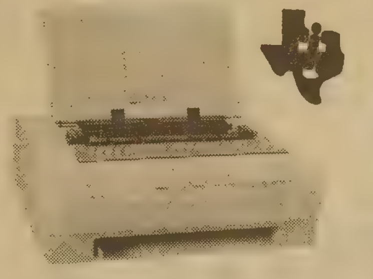


T1910/T1910C	Best
T1950/1950CS/CT	Best
T3400/T3400C	Best
T4600/T4600C	Best
T4700/T4700C	Best

NEC UltraLite™ Versa

486-40 120MB HDD	Mono/Color.	Best
486-40 250MB HDD	Mono/Color.	Best
486-50 205MB HDD	Mono/Color.	Best
486-50 340MB HDD	Mono/Color.	Best

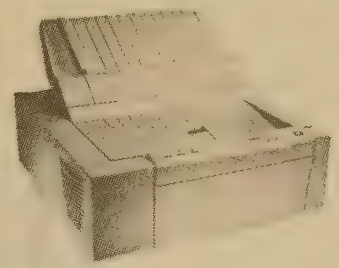
TI MicroMarc Inkjet Printer



- 300/300pcs draft / letter quality
- 128 nozzles, 24K memory, PCL3,
- 1400 pages / cartridge, parallel

$259 after rebate

NEC SuperScrip™ 610/640



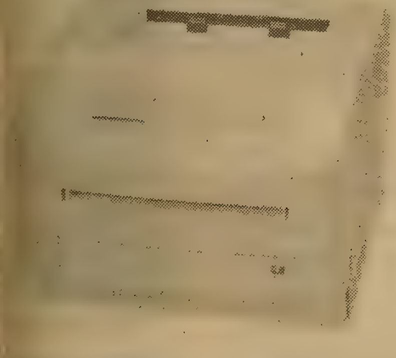
- 300dpi, 6ppm, PC.
- GDI plus PCL4
- 34 Truetype Fonts

$589

- 300dpi, Mac only
- 6ppm, Adobe PS17
- 35 Truetype Fonts

$799

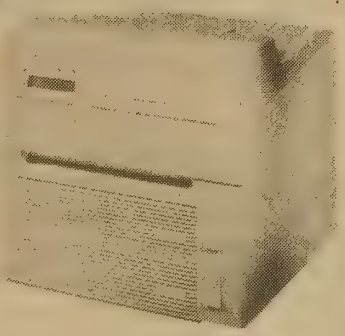
TI MicroWriter



- 5PPM, 2MB RAM, 300DPI,
- Adobe Postscript & PCL4,
- Parallel and Appletalk

$689 PS23 **$999** PS65

TI MicroLaser Pro 600



- 8PPM, 6MB RAM, 600DPI,
- Adobe Postscript Level 2 & PCL5
- Parallel and Appletalk (auto switch)

$1300/PS23 after rebate

Call for Pentium 60Mhz

IBM 486-66SLC VESA

- IBM 486SLC-66 CPU w/64K Cache
- 1.2/1.44MB FD, 250MB HDD
- 4MB RAM, SVGA Card & Monitor(non)
- 2Serial 1Parallel 1Game Port, Mouse

$1219

McTEK 486DX-33 / 50/ 66

	33DX	50DX	66DX/2
VESA	*1319*	*1459*	*1529*
EISA	*1459*	*1619*	*1659*

- Intel 486DX CPU W/256k CACHE
- 1.2/1.44MB FD, 250MB HDD, 101KB
- 4MB RAM, SVGA Card and Monitor
- 2 Serial, 1 Parallel, 1 Game Port,Mouse

Monitors / Video Card

Trident VGA w/1MB	$79
Tseng Lab VGA w/1MB	$99
Cirrus Logic VLB	$99
Fahrenheit 1280 VL Bus	$159
Diamond Stealth 24	$179
Diamond Speed Star 2/1MB	$139
Diamond Speed Star VESA	$189
Diamond StealthPro VESA	$269
Spider VL Bus w/1MB	$139
SVGA Monitor 0.28mm	$299
SVGA Monitor non-interlaced	$299
Viewsonic 6FS (15")	$479
NEC 3FGe (15")	$599
NEC 4FGe (15")	$695
NEC 5FGp (17")	$1459
NEC 6FGe (20")	$2399
Sony 1430 (14")	$599
Sony 1730 (17")	$989
Sony 17se1 (17")	$1279
Mitsubishi 20"	$1899

Printer

Cannon BJ10ex/BJ200	$279/299
Epson 2250 / 3250.	$155/199
HP 4L/4LM	$699/1059
HP 4/4M	Call
HP4 SI / 1200C	Call
HP 310 PORTABLE	339
IBM 4079	$2659
NEC 610/640	$589/799
NEC 1097	$1485
TI MicroMarc 300cps LQ	$289
TI Laser Printer (Basic)	$549
TI Laser Printer (PS23)	$689
TI Laser Printer (PS65)	$999
TI MicroLaser Pro 600DPI 6MB, PCL 5 & Adobe PS PS65	$1575

Tape Backup

Colorado 250MB Int	$179
Colorado Tranker 120MB	$315
Colorado Tracker 250MB	$355

CD ROM

Toshiba 3401	$345
Mitsumi FX001D	$195
Panasonic 562	$195
Philips	$155
Sound Blaster 16 SCSI ASP	$219
Pro Audio Spectrum 16 SCSI	$159

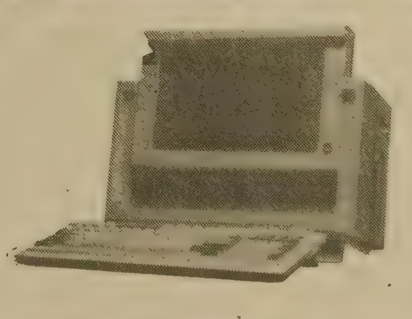
Optical/Hard drive

200MB / 250MB IDE	Call
340MB / 550MB	Call
650MB IBM Optical Drive	**$1099**

FAX / MODEM

US Robotics 14.4 Int/Ext	$169/189
VIVA 14.4 Int/Ext	$159/179
Atech mini 14.4 Pocket	$229
Intel 14.4 Int	$165
Practical 14.4 Mini Tower	$229
Practical 14.4 Pocket	$395
Practical 14.4 Mini Tower(Mac)	$229
PCMCIA 14.4 Fax/modem	$315

Portable Computer



80386-40DX, LCD / G.P. / Active color
1MB RAM EXP. TO 32MB, 120MB HD
1.2 OR 1.44MB FD, CRT AND KB PORT
Also available in 486-33/50/66DX or SLC

LCD	Gas Plasma	Active Color
$1359	$1559	$3459

McTek Systems, Inc.
1521 San Pablo Ave. Berkeley, Ca 94702
Tel:(510)525-5129

HOURS
M - F 10:00 - 18:30
SAT 11:00 - 16:00

VISA / MASTER ACCEPTED

ALL PRICES SUBJECT TO CHANGE

FINANCE, LEASING, UPGRADE, REPAIR, AVAILABLE

Amiga CD32

Commodore's New Game Box Also Plays Movies

BY DOUGLAS J. NAKAKIHARA

As expected, Commodore officially introduced the Amiga CD32 to the US market at the Consumer Electronics Show, held last month in Las Vegas.

CD32 is based on the custom Amiga AGA chip set and is powered by a 32-bit Motorola 68EC020 processor running at 14MHz. Two megabytes of RAM and 1K of nonvolatile memory (for saving game high scores, etc.) is standard. The built-in double-speed multisession CD-ROM drive is accessible via a pop-up lid and does not require a disc caddy. CD32 delivers up to 256,000 colors out of a palette of 16.7 million and features four-channel 8-bit Amiga and full 16-bit CD audio. The suggested retail price is amazingly only $399!

External connectors include stereo audio, S-video, RF and composite video, stereo headphone (with volume control), keyboard/auxiliary, and two joystick/mouse ports. Except for the keyboard jack, CD32 does not have computer-type ports. However, future options may make it possible to turn it into a full-blown computer via its special expansion slot. This slot may also be used for cable and satellite TV interfaces. (CD32 add-ons for the Amiga 1200 and 4000 are planned.)

Right out of the box, CD32 can play CD32 and some CDTV titles, standard audio CDs, CD+G, and CD+MIDI (the unit lacks a MIDI port, however). Kodak PhotoCD support is due shortly. The new movie CD formats, VideoCD and Digital Video, are supported, but require an optional module.

THE COMPETITION

After years of trying to deny that the Amiga was really "just" a game machine, Commodore has turned the tables and created a game machine that is really "just" an Amiga. CD32 is aimed squarely at the market currently dominated by the Nintendo and Sega game consoles. Compared to CD32, these 16-bit old-timers are underpowered and unexpandable. Furthermore, only Sega is currently offering CD-ROM capability with an add-on device, which brings its total cost to nearly the same as CD32's.

Copyright © 1994 by Douglas J. Nakakihara. All rights reserved.

MULTIMEDIA

Solutions that solve your worst problems, or just make life easier.

Kiosk Systems

- ☐ Information
- ☐ Sales
- ☐ Communications

Computer based Training Systems.

- ☐ Self-guided training for new employees
- ☐ Safety training and testing

Presentations

- ☐ Interactive stand-alone presenations for shows and conventions
- ☐ Marketing and sales
- ☐ Demonstrations

HMS

HAMILTON MULTIMEDIA SYSTEMS, INC.

1733 South Douglass, Suite G
Anheim, CA 92806

(714) 978-9487 FAX: (714) 978-9651

Partial Client List:
NCR Corporation, Remedy Temp, Express Personnel Services, Auto Trader San Diego, Imperial Credit Industries, Microtimes, Citizens Thrift & Loan, City of South Gate, Highland Federal Bank, Ormond Inc., Pioneer Savings and Loan, and more. . .

Also on the market is Philips' CD-I. Philips has been trying to get the public to bite the CD-I pie for years with very little success. It has become old technology with very limited capabilities. As such, CD-I is not a serious contender in the games console market.

Atari Jaguars are beginning to appear at stores, but software availability is extremely limited. Whether or not Atari can attract developer support will be key to Jaguar's survival. A CD add-on is supposedly due out this year.

It's difficult to say what about Panasonic's new 3DO machine will make your jaw drop farther: the awesome graphics or its $699 price tag! I'm inclined to believe that 3DO is just a little too pricey to really take the market by storm. Neo-Geo tried this with a high-priced arcade-quality game console that ultimately failed. There's obviously a limit on how much people will pay to play games.

MOVIES ON CD

Commodore has an ace up its sleeve in the form of an optional MPEG module that plugs into the expansion port. (MPEG [pronounced em-peg] refers to the method used to compress the video.) This device, at a suggested retail price of $250, expands CD32's home entertainment potential by allowing you to play full-length movies from discs the same size as audio CDs! These movie CDs, called VideoCDs, have a capacity of 74 minutes, which means a normal length movie will require two disks. Reportedly, the companies supporting the VideoCD format include Goldstar, JVC, Matsushita Electric, Philips, Samsung, Sigma Designs, and Sony. (Note: VideoCD capability will reportedly be a future option for 3DO and Jaguar.) An exciting feature is that MPEG video can also be integrated into CD32 applications just like any other Amiga animation.

A nearly identical format from Philips for their CD-I machine is Digital Video, which can also be played on a CD32 with the MPEG module. Currently, these are the only movie CDs being sold. Some of the available movies are *Hunt for Red October, Star Trek VI, Black Rain, Fatal Attraction, Patriot Games, Sliver, The Firm*, and *Top Gun.*

THUMBS UP [AND DOWN]

It has been reported that the picture quality of movie CDs is better than VHS tape, but poorer than laserdiscs. After viewing a movie using CD32, I agree that the picture quality is not up to laserdisc standards. The claim that picture quality is superior to VHS tape, however, is subject to debate.

Movies on VHS tape have an overall graininess, which doesn't really stand out as a defective picture. Although a movie CD picture is generally sharper than VHS tape, tiny artifacts are sometimes visible, especially in dark scenes. However, paused video and single frame advance are exceptionally clear. I suppose that by any electronically measurable means, the movie CD picture quality is better; however, your eyes may not totally agree.

Despite the slight imperfections of movie CDs, the picture is very watchable and I think the medium could catch on. Apparently, compressing a movie with MPEG is as much of an art as it is a science, and picture quality should improve as developers get better at encoding the video.

Just as prerecorded cassette tapes have flourished despite their inferiority to CDs, I believe movie CDs can prosper as well. Music videos should be a natural for this medium, especially if some sort of portable unit becomes available. People can choose between watching their favorite artists perform or just listening to the CD-quality audio.

The discs are priced right too. A *Hunt for Red October* Digital Video CD only cost me $19.99! Substantially cheaper than laserdiscs which run around $35, and about the same price as many VHS movies. Considering how scarce these discs are—at least for now—I was pleasantly surprised at how inexpensive they were. They've also managed to squeeze the movie's two discs in a double-sided case the same size as a regular audio CD's.

CDXL

CDXL is a method by which data is transferred from a CD directly to display memory, without CPU involvement. The result is impressive partial-screen full-motion video from a CD without any add-on hardware. This allows developers for, say, games based on movies to include actual movie clips right in the game. An example of this was demonstrated for an upcoming game based on the movie *Jurassic Park.*

EASY DEVELOPMENT

Since CD32 games are essentially Amiga games on CD-ROM, development tools are mature and inexpensive. Virtually anyone with an AGA Amiga and a large hard drive could easily develop software for CD32. There is even an '020 board and CD-file performance software to help simulate CD32 performance on an Amiga 4000.

Commodore has garnered tremendous developer support and expects to have eighty-fivetitles available by the time it goes on sale in the US. My evaluation unit came with fifteen titles, far more than I've seen for 3DO and Jaguar which are already shipping.

Also, propelling companies to jump on the CD32 developer bandwagon is the fact that Commodore only charges a licensing fee of $3 for every game sold. The norm for this type of arrangement with other game console platforms is reportedly a fee for every unit manufactured.

Aside from the benefits that Commodore is offering, the CD medium itself is very attractive to developers because it allows them to exercise greater inventory management and has lower manu-

NAC Knows NETWORKS!

Authorized Dealer

HEWLETT PACKARD Authorized Dealer

DAVID SYSTEM

COMPAQ

WOLLONGONG

Microsoft

FTP

digital™

NOVELL

Business Partner

intel

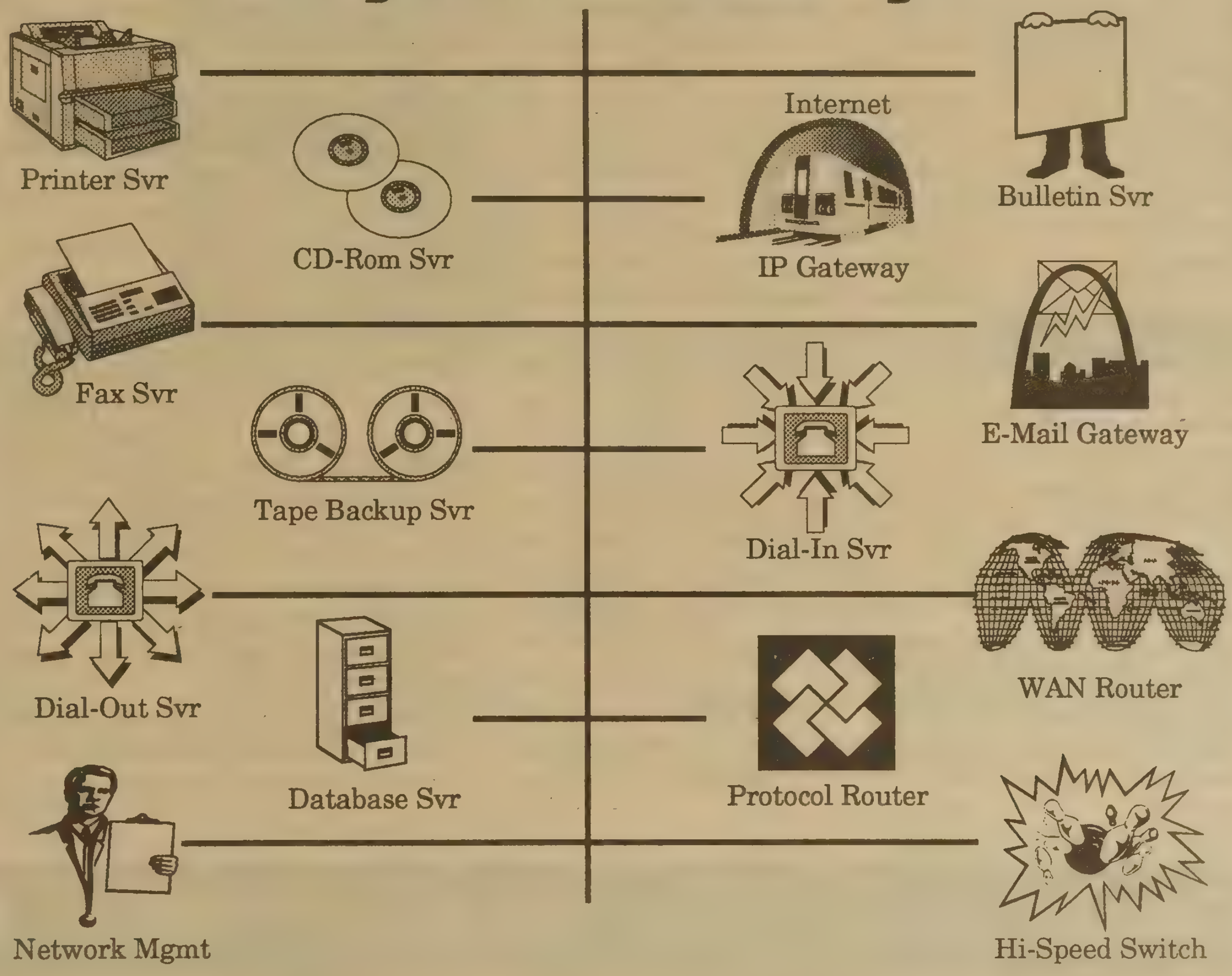
3Com

LANtastic ARTISOFT INC.

SCO THE SANTA CRUZ OPERATION

Hummingbird

Does your *NET* work for you?



Novell Gold Authorized Reseller

Novell Authorized Service Center

Novell Unix Master

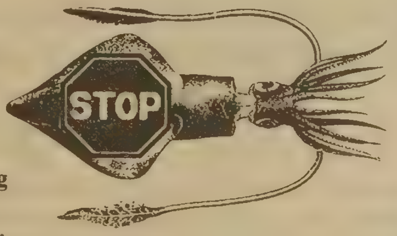
Novell Net Master

$$We Save You Money $$

3COM Etherlink III Coax/TP	$129
SMC Ethercard Ultra 16 Coax/TP	$119
Asante Ethernet Card	$148
Intel Netport II 10T	$425
1000' Cable	$100
AMP BNC Male Conn (10-P)	$30
15' or 25' assembled RG58 Cable	$20
IBM T.R. Patch Cable 8'	$15
Transceiver Cable 3'	$25
Ethernet Transceiver	$45
10BaseT 9-Port Hub	$285
10BaseT 18-Port Hub	$565
2-Port Ethernet Repeater	$399
4-Port Ethernet Repeater	$599
8mm 2G Tape Drive	$1669
4mm DAT 2G Tape Drive	$1189
Remote Bridge/Router	$2233

YOU NEED STRONG HANDS ....Not finger pointing

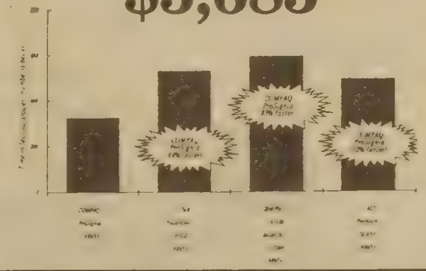
- **Enterprise Network Design**
- **Cabling System Design**
- **System Administration**
- **System Management**
- **Equipment Installation**
- **Application Installation**
- **Cable Installation**
- **System Administration Training**
- **Application Software Training**
- **Network System Trouble-Shooting**
- **On-Site Hardware Trouble-Shooting**
- **Telephone Support**
- **Maintenance Contract**
- **Carry-In Hardware Repair**

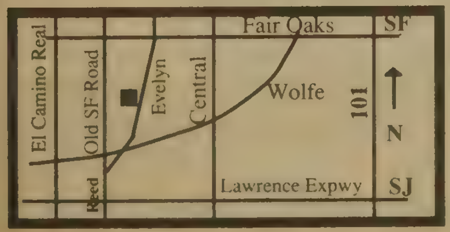


NAC Engineering & Service Department is composed of veterans in UNIX, Windows, Macintosh, WAN, and a group of CNEs.

COMPAQ File Server

- 486/33 EISA, 24M
- Compaq Fast SCSI-2 host adapter
- Compaq Netflex 32-bit EISA NIC
- 3-year on-site service for the above items
- 1G SCSI-2 hard disk (12ms)
- VGA monochrome monitor
- Free installation with Netware purchased from NAC **$5,685**





*N*etwork *A*ssociates *C*orporation

(408) 733-2600 ext 333

FAX (408) 733-4268

720 E. Evelyn Ave., Sunnyvale, CA 94086-6526

Not responsible for typographic errors. Subject to stock on hand. Prices subject to change.

facturing costs. Because CD pressing services are quicker and more readily available compared to cartridge manufacturing services, companies can afford to keep minimal inventories on hand and order on an as-needed basis. In addition, the per-unit manufacturing cost of a CD can be less than a dollar, while game cartridges can be over $10. CD32 titles are already being sold at prices 30 to 40% lower than game cartridges.

HANDS ON

The multi-button controller is very well designed and operates excellently. Two of the buttons are located on the side of the controller and are easily manipulated with your index fingers. The rocker-style directional button is smooth and responsive. The controller is very similar to Super Nintendo's, but slightly larger and much more ruggedly constructed.

Games loaded fairly quickly—not as fast as a cartridge ROM, but substantially faster than a floppy disk. Although the discs I received appeared to be enhanced versions of previously released Amiga titles—not surprising for the initial offerings—consumers not already familiar with the Amiga will be extremely impressed. Moreover, some really incredible games are forthcoming, written specifically for the platform. A demo disc provided a preview of a ground-breaking shoot-'em-up game called Microcosm from Psygnosis, filled with awesome 3-D animations.

Arcade action games will make or break CD32. Two in particular that came with my unit, Gremlin's "Zool—Ninja of the Nth Dimension" and Flair's "Oscar," have the potential of becoming what Mario Bros. and Sonic the Hedgehog are to Nintendo and Sega. This type of association is very important: it personifies the hardware, which helps with consumer awareness. Commodore really needs to capitalize on this, by getting some type of exclusive licensing agreement with the makers of Zool or Oscar.

Grolier's Encyclopedia is also available for CD32, with 400MB of data comprising the 21-volume encyclopedia. Over two thousand photographs and illustrations, and high-quality audio are featured, including excerpts from famous speeches and musical compositions.

SOMETHING FOR EVERYONE

After playing with the unit for a few weeks, I am convinced that Commodore has a potential hit on its hands—this is an exciting product!

For the game players, CD32 offers graphics performance far superior to Nintendo and Sega. With educational and reference titles, the ability to play standard audio CDs, and the optional capability of playing movies, parents can find comfort in knowing that CD32 is more than just a game machine. While adding a CD-ROM to a personal computer may provide similar benefits, PCs lack the graphics power of the Amiga. Moreover, adding a CD-ROM and soundcard to a PC will probably cost more than CD32.

Of course the initial investment cost will be an issue with consumers. However, with game cartridges selling for around $60 and

Video Toaster - Fast Video Machine - Matrox Studio

OZ

Personal Animation Recorder
Record live video and Playback 24 bit (16 million color) animations at 30 frames per second. Render directly to hard disk. Ask for a demo.
In Stock for Amiga and PC

Desktop Video Editing Solutions
for the
PC • MAC • AMIGA
Use Video to present your products, to demonstrate new equipment, train personnel on procedures, or improve your image.
Desktop Video is affordable and available for in-house use.
Investigate Now How Your Company Can Save Money and Be More Effective.

AMILINK

CrystalGraphics

IMAGE NORTH

MATROX STUDIO

FAST

Authorized Reseller for:
Newtek Video Toaster
Matrox Studio
Fast Video Machine for the PC
Videomedia OZ
Fast Video Machine for the MAC
Commodore Amiga
RGB Amilink
Inscriber Character Generator
Crystal Graphics Topas
Matrox MAX
DPS PAR/TBC

Desktop Video Systems

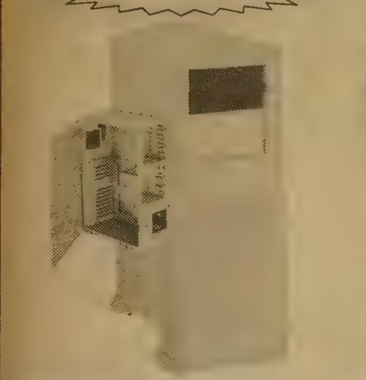
HT ELECTRONICS
computer systems

Free Seminar
Videomedia OZ
Desktop Video Editing on the PC or Mac.
See for yourself. March 4th, 11:00 AM

275 N. Mathilda Ave., Sunnyvale, CA 94086
Store Hours: 9:30-6 M-F • 9-5 Sat • Closed Sunday

(408)737-0900
FAX (408)245-3109

SPECIAL



Dual cooling fans, Easy Access swing open side doors, Slide 'n Snap drive rails, 4 exposed and 3 hidden drive bays, 250W UL power supply.

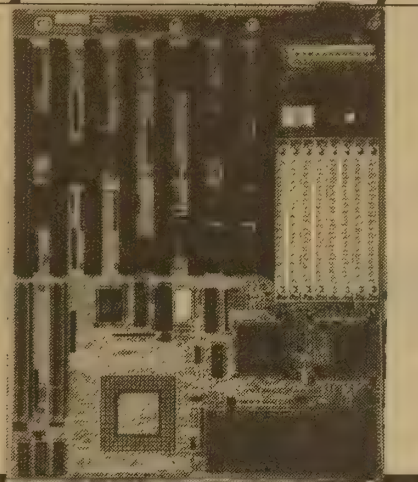
$155 (208GT)

upgrade to 300W UL PS .... ADD $20
Medium Size w/250W
UL(210GT) $120

BIG SALE

★ GREEN PC COMING ★

Lynx's Users: IBM, Intel, NASA, AT&T, AMD...



PRESENTING
LYNX GALAXY
486VL BUS

DESIGN / MADE IN USA
FCC CLASS B
ONE BOARD FITS ALL

(Dealers Welcome)

CONTAQ chipset and new AMI BIOS
8x16 bit slots (include 2x32 bit VLB slots)
Supports Intel, AMD & Cyrix CPU's (all speeds)
100% Compatible w/ DOS, OS/2, XENIX, UNIX, NOVELL NETWARE, Win. NT

0K/128K/256K....$98/116/130

LYNX VLB	Board & CPU	Basic System	LYNX VL	Board & CPU	Basic System
486DX2-66/128K	$559	$719	386DX-40/128K	$104	$274
486DX-50/128K	529	689	386SX-33	76	244
486DX-33/128K	375	535	IBM SLC2-50 VLB/64K	225	385
486SX-25/128K	199	359	IBM SLC2-66 VLB/64K	265	425
486SX-33/128K	235	395	486 EISA/VESA w/256K	CALL	CALL

Basic system includes: Board & CPU, 1MB RAM, One Floppy, IDE Controller,101 Enhanced Keyboard, Mini Case w/200W PS, 2 Serial, 1 Parallel, 1 Game ports

EVERYDAY LOW PRICES

CASES & POWER SUPPLIES

DELUXE Full-208GT (2 FANS, Easy Access Side Doors, 4 Exp'd, 3 hid'n, 230W UL)	$149
Mini-104T (4 exp'd, 1 hidden, 200W PS)	46
Med-106T (5 exp'd, 3 hid'n, 200W UL PS)	70
Full 108T (4 exp'd, 7 hid'n, 230W UL PS)	99
Full-42T (4 exp'd, 5 hidden, 220W UL PS)	80
Full-51T (7 exp'd, 1 hidden, 220W UL PS)	95
Mini- V103T (4 Exp'd, 5 Hidden, 220W PS)	70
Desktop-S203D (4Exp'd, 2 Hidden, 200W PS)	75
Desktop-K101D (1Exp'd, 2 Hidden, 100W PS)	80
Desktop-K101D (1Exp'd, 1 Hidden, 60W PS)	80

POWER SUPPLIES

Full PS 230W UL/250W UL/300W UL	$39/45/65
Baby PS 200W /200W UL/230W UL	35/40/44

FLOPPY, HARD, TAPE, & CD-ROM DRIVES

TEAC 1.2MB/1.44MB FDD	$46/38
All Hard Drives	CALL
Colorado 120/250MB Tape Drive	139/165
Sony CD-ROM (31A) w/Controller	189
Toshiba 3401B/3401E CD-RIN (Int/Ext)	.349/449
w/Controller	ADD 70
NEC CDR 74/84-1 CD-ROM (Ext/Int)	580/439
Media VisionFusion CD-16 upgrade kit	CALL
NEC Multimedia Upgrade Kit (Int/Ext)	895/995
Sound Blaster Pro Multimedia Kit w/6 CD Titles (Int/Ext)	510/520

VGA CARDS

MGP/MCGP Card	$14/19
ACUMOS SVGA Card 256/512K	31/41
Cirrus/Trident SVGA Card 1MB	58
Diamond SpeedStar Pro 1MB 16 Mil Colors	129
Diamond Stealth-24 DRAM 1MB ISA/VLB	157/160
Diamond Stealth Pro VRAM 1MB/2MB VLB	259/349
Diamond Viper (P9000, 2MB VRAM)	365
ATI Graphic Ultra Pro VRAM 2MB ISA/VLB/EISA	355/365/389
Genoa 7900 1MB 16 Mil Colors 24 Bit	109
ORCHID Pro-Designer II's 1MB Hi-Color	129
ORCHID Fahrenheit 1MB 24-Bit VLB/VA	159/189
Spider/Black Widow VLB 1MB	95/209
AMI Fast View EISA VGA Graphics 1MB	269
AMI Fast View P9000 VLB 2MB	395

LYNX 486 Deluxe VLB CAD Systems

LYNX 486SX25/SX33 VLB	$1238/1289
LYNX 486DX33/DX50 VLB	1428/1588
LYNX DX2-66 VLB	1618
IBM SLC2-66 VLB	1304

System Configuration:

- LYNX VLB Board w/128K & CPU or IBM Alaris VLB w/64K & SLC CPU
- VLB SVGA Card (1MB)
- VLB Multi-IDE-I/O Card
- 4MB High Speed SIMM
- 255MB Fast IDE Hard Drive
- TEAC 1.2MB &1.44MB Floppy Drives
- 15" Non-Interlaced SVGA Monitor
- Deluxe Keyboard (101Keys)
- Medium Tower Case w/250W PS

Options:

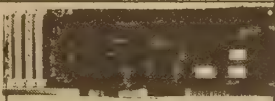
1 Upgrade Memory & Hard Drive	Call
2 NANAO F550i (2nd) (17")	Add $560
3 NEC 5FGE (17")	Add $759
4 Viewsonic V7/V17 (17")	Add $519/669
5 ADI 4G (15") / 5A (17")	Add $75/519
6 Sony or Mitsumi CD-ROM	Add $175
7 Toshiba CD-ROM 3401 w/Card	Add $455
8 Sound Blaster Pro Deluxe	Add $115

Prices subject to change w/o notice

PC Editor's Choice

PC MAGAZINE EDITORS' CHOICE
Sept . 1992
Volume 1 Number 6 (U.K.)

YOUR NETWORK SOLUTION
NETWORKING SPECIALISTS
CALL NOW!



VESA Bus IDE CACHE CONTROLLER
(DC-680)
$135 (Local Bus)

Caching + Mirroring
EISA Fast SCSI
(DC-820)
$365

MONTHLY SPECIALS

MITSUMI CD ROM (DOUBLE SPEED/W/CARD	$195
SONY 17" SVGA MONITOR (OEM)	$869
TEAC 1.2MB & TEAC 1.44MB FDD BUNDLE	$80
POWER SURGE PROTECTOR (6 OUTLETS)	$3
(NEW) MS DOS 6.2 (WITH SYSTEM PURCHASE)	$74
PC TRACKBALL/GENIUS HITRAK (SERIAL)	$45/49
ULTRASTOR 34F SCSI VLB CONTROLLER (BUS MASTER)	$266
REMOVEABLE IDE HARD DRIVE KIT	$34
PANASONIC/MITSUMI CD-ROM W/16 BITS AUDIO CARD	$199
TOUCH 14" SVGA MONITOR .28 INT./NON-INT.	$219/239
TOUCH 15" SVGA MONITOR .28 NON-INT FLAT SCREEN	$339
ADI MICROSCAN 3E/3G/4G (15") /5A (17") NON-INT.	$289/319/389/795
NE2000 (NOVELL CERTIFY) ETHERNET CARD 16 BITS COAX/TWIST-PAIR	$45/47
MINI/MED TOWER W/230W PS (104T/106T)	$46/70
NANAO F550I FLEXSCAN 17" (2ND)	$875

1 YEAR PARTS /3 YEARS LABOR/LIFETIME TECH SUPPORT LIMITED WARRANTY

EVERYDAY LOW PRICES

MONITORS

14" MONO/VGA MONO Monitor	$89/104
14" SVGA MONITOR INT .28/.39	219/192
ADI/TOUCH Monitor	(See Monthly Specials)
NANAO	
F550i (17" 1280x1024 .28 2nd inv.)	875
F550iw (17" 1280x1024 .28 75Hz)	1074
T560i (17" 1280x1024 .26 TRIN.)	1624
T660i (20" 1280x1024 .31 72Hz)	2370
F750 (21" 1280x1024 .31)	1989
NEC	
3FGe (15" 1024x768 .28 NI)	524
4FGe (15" 1024x768 .28 NI)	664
5FGe (17" 1024x768 .28 NI)	1046
5FGp (17" 1280x1024 .28 NI)	1388
6FGp (20" 1280x1024 .28)	2399
SONY	
1430 (14" 1024x768 .25 NI)	548
1604S (17" 1024x768 .25 NI)	898
1730 (17" 1024x768 .25 NI)	945
17SE1 (17" 1600x1280 .25 NI)	1198
VIEWSONIC	
V6E (14" 1024x768 .25 NI)	276
V15E (15" 1024x768 .28 NI)	375
V15 (15" 1280x.1024 .28 NI)	432
V17 (17" 1600x.1280 .28 NI)	938
V17G (17" 1280x1024 .28 NI)	788
V8 (20" 1280x.1024 .28 NI)	1458
V20 (20" 1600x.1280 .28 NI)	1606
V21 (21" 1600x.1280 .26 NI)	1844

KEYBOARDS, MICE & MODEMS

MaxiSwitch 101 Keyboard	$34
KeyTronic 101 Keyboard	32
Focus FK9000	65
MS DOS 6.2 (w/System Purchase)	70
Leadgen Mouse (Ser)	10
2400 bps Modem (Int/Ext)	32/68
96/24 Fax Modem (Int.)	65
14400 Fax Modem Send/Rec. (Int./Ext.)	139/159

CONTROLLERS

DC-600B Cache IDE ISA	$125
DC-680 Cache IDE VLB	149
DC-620 Cache IDE EISA	199
DC-820 Cache SCSI EISA	375
Adaptec 1542C w/o kit	192
IDE VLB Add-On	45
AT/IO (2S/1P/1G)	14
IDE 1:1 2HD/2FD Controller W/Cable	14
IDE 1:1 2HD/2FD & 2S/1P/1G W/Cable	16
IDE 1:1 2HD/4FD Controller	45
AT 1:1 MFM 2HD/2FD Controller	45
Serial (RS232) Card/Parallel (Printer) Card	13/14

LOCAL AREA NETWORKS

Ethernet NE-1000/NE-2000 Coaxial	$50/60
Ethernet NE-1000/NE-2000 10-Base T	55/58
ARCNET 8/16 Bit Coaxial Star	41/64
ARCNET 8/16 Bit Twisted Pair	47/74
MAXLANStarter Kit (8 bit/16 bit)	185/199

NEW Location

LYNX

LTI Leopard Technology

INTERNATIONAL

624A EAST EVELYN AVENUE, SUNNYVALE, CA 94086

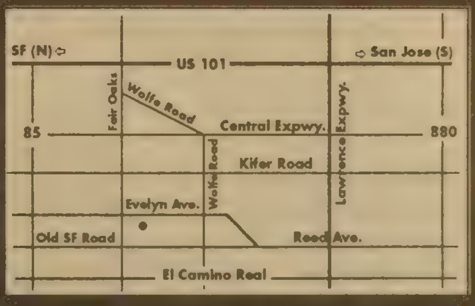
NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE.
Prices reflect special discount

Company P.O.'s & Dealer Inquiries WELCOME! CALL FOR CURRENT PRICES

(408) 481-9288 FAX:(408) 481-0866

STORE HOURS
MON-FRI 9AM-6PM
SAT 10AM-5PM
SUN BY APPT. ONLY

SINCE 1987



Propelling companies to jump on the CD32 developer bandwagon is the fact that Commodore only charges a licensing fee of $3 for every game sold.

initial CD32 titles for about $39, people need to look further down the road. Forgetting for a moment the benefits of the CD medium and the superiority of the CD32 hardware, although you can get Sega or Nintendo consoles for around $100, simple math will tell you that you'll make up the initial cost difference after purchasing only ten to fifteen titles.

CD32 would also be very cost-effective for kiosks as well as educational and training video distribution. As mentioned above, you'd pay more for a PC-based system and get less performance. Remember, CD32 can be connected to an ordinary TV right out of the box; PCs can't. Moreover, PC animations I've seen played off a CD pale by comparison to CD32 CDXL animations, and MPEG video is like watching TV.

MARKETING

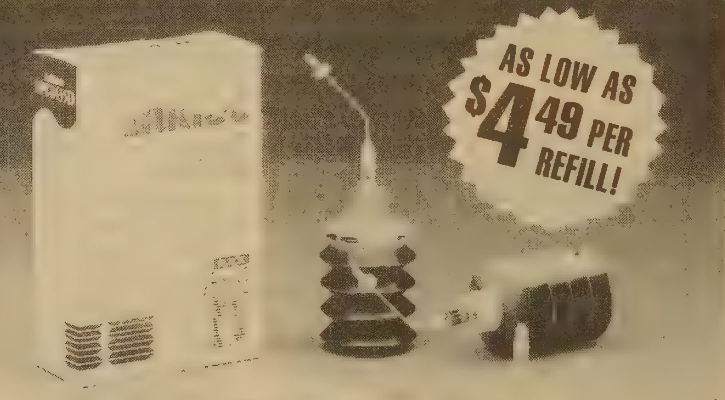
It is expected that CD32 units will be available for purchase by the end of March. However, so far, there has been no official word on how CD32 will be marketed.

Commodore is supposedly trying to get retailers that have the capacity for in-store demonstrations and shying away—for now—from mass marketers. Blockbuster and West Coast Video stores have been suggested as possibilities. Marketing on the QVC network may also be a candidate. This is a smart move for a company with a limited advertising budget. Without heavy TV promotion, simply putting CD32 on retailer's shelves could taint the product in the eyes of dealers if sales are sluggish.

CD32 is already the best-selling CD-based game machine in England, after only a few months on the market. In the US, the trick will be to get the public interested enough to actually go out and see one. This also means that Commodore has to get some reasonable level of retailer support.

I believe that kids will be quick to embrace CD32, as they generally exhibit little product loyalty. CD32 is a solid performer with an amazingly low price tag. However, with the increasing number of competing platforms, its market is going to be a battlefield.■

Lowest Lowest Lowest — SAVE $$$



AS LOW AS $4.49 PER REFILL!

Reuse Your Cartridge Up To TEN* TIMES With Our Refill Kit!

STI Refills Save Money and Help Preserve Our Environment!

HP DeskJet & DeskWriter Families:
HP Fax-200, Fax-300, and Fax-310
or any other printer or fax machine using HP-51608A/51626A cartridges.

HP51608A KIT (4 Refills): $17.95
HP51626A KIT (2 Refills): $17.95
MULTI-PACK: CALL

Wholesale and Dealer Inquiries Welcome

Our Everyday Reseller Prices Are Very Competitive! (minimum order – 2 kits)

CANON CARTRIDGES
For BJ 30/300/330 ...... $13.95
(BJI-642, IBM 1308479, or Jetfill Bubble Jet Compatible, Pacific Data Protracer)

CALL TODAY!
1-800-532-3903

STI
Saturn Technology Inc
3945 Freedom Circle, Suite 770
Santa Clara, CA 95054
Tel. 408-982-5910 Fax 408-982-5923

© 1993 STI. All product names are trademarks of their respective companies. Information subject to change without notice.

* SOME RESTRICTIONS APPLY.

Monitor Saver™
Energy Saving Device
Save Over $100 Every Year
(That's per Monitor!)

Limited Time Offer $40 Expires 4/4/94

Corporate Discounts Call for details!

Automatically turns off the monitor when left idle for a specified time. Power resumes at a simple keystroke or mouse movement.

- ➤ No Software Required.
- ➤ Eliminates harmful Electromagnetic Emissions.
- ➤ Prolongs the Monitor Life.
- ➤ Saves Up To 80% of The Energy Consumption of a Monitor.
- ➤ Simple Installation, Connects in Seconds.

Cypress Computer

26120 Eden Landing Road, Ste 6
Koll Eden Plaza
Hayward, CA 94545

1-800-728-6688
Local 510-786-9106

For the best selection of unique electronic goodies, think HSC!

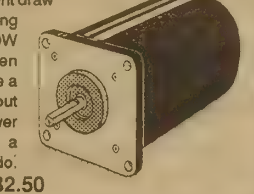
New! Surface Mount Components Department!
We are in the process of sorting out and setting up our large selection of surface mount capacitors, resistors, IC's and other components. Parts may be sold individually or by the reel when available Send us your requirements!

Get Motivated!

Two nice, heavy-duty motors for the hobbyist who needs to get something moving!

A. 12VDC two-speed reversible motor, 3" dia. x 4.5" long with a .5" long shaft. It will provide up to 30 oz.-in. of torque at 2700 RPM, unloaded speed is closer to 5000 RPM. Depending on load they draw anywhere from 5 to 9 amps. The .31" (5/16") dia. shaft is cut with gear teeth, but you could still put a pulley or gear with a set-screw on it. Generous 33" long leads are color-coded for easy hook-up. Connection diagram and torque curve chart provided. New, somewhat dusty.
HSC# 13617 $7.95

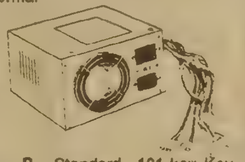
B. Beautiful 115VAC Synchronous motor by Bodine. These new-in-box "HY-Sync" reversible motors (type 42TIBEHY) are just the thing for that application requiring a high-torque slow spinning motor (72 RPM at 60 Hz.) The mounting flange is 4.25" square, with .25" holes on 3.5" mounting centers. The overall length from the mounting face is 5.5" and it has 28" long color coded leads. The .375" dia. shaft is 1" long and has two flats at 90° for dual-setscrew gears or pulleys. The current draw is about .6A and a 9µF starting capacitor and 200 Ω 100W resistor are required when connecting. We will include a capacitor with each motor, but we haven't found the power resistors yet. Figure on a couple of bucks when we do.

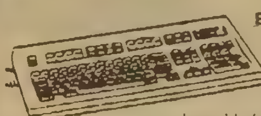


HSC# 14606 $32.50

This month's Computer Specials...

A. "Mini-tower" power supply, fits most Mini- and Mid-size tower cases as well as many small-footprint desk-top cases. 165W, measures 6" x 5.5" x 3.5", has normal motherboard connectors, three large and two small drive connectors and 10" long switch connection leads (switch not included). New OEM stock!
HSC# 14632 $24.95

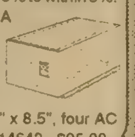




B. Standard 101-key Keyboard, function keys across top, AT-XT switchable, "Bargain" quality, new in box. Not a lot else that can be said about a generic IBM-type keyboard like this, except that it will be hard to beat this price!
HSC# 14633 $14.95

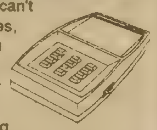
Computer Protector!

Better protection than a surge suppressor! These Sola MCR500 voltage regulators regulate line fluctuations of ± 15% to within 3%. Provides 500VA of sinusoidal output within NEMA voltage specs with an input voltage as low as 65% of nominal! Surge suppressors can't *raise* low voltage in brown-outs! Filters out spikes, noise and other transients, and isolates load from power line. Used units, 40 lbs., 17" x 8.5" x 8.5", four AC outlets, heavy line cord, circuit breaker HSC# 14642 $95.00



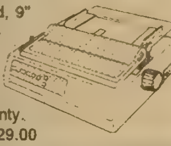
One-trick Phone Friend

This little novelty was meant as an easy-access dialer for one of the off-brand long distance services. You can't change the pre-programmed access codes, but it will remember the last number you dialed with it, so you could use it as a one-number (16-digits) memory re-dialer. Handy for those midnight overseas calls! Uses three button cells which might need replacing.
HSC# 14438 $4.95



Cellulose Output Device

Well, OK, how about Paper-Emitting Display? Oh, all right, it's a printer...namely an Okidata Microline 320. Specifically, it is a used, tested-good, 9" carriage, 9-pin dot-matrix, parallel interface, 300 CPS tractor-feed or sheet-feed printer. Front-panel controls allow selection of various modes and fonts. We are offering a 90-day warranty.
HSC#13896 $129.00



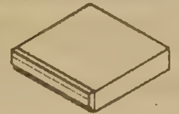
Windows Revival

You say you missed out when we had our special on OEM packaged sets of Windows 3.1? Well, you've got one more chance, as we were able to turn up a limited quantity of these Texas Instruments labeled packages of Microsoft Windows 3.1 on 3.5" disks (with manual). It's the real thing, just doesn't have a pretty box. Hurry, though, this may be your last chance! HSC# 14434 $49.95

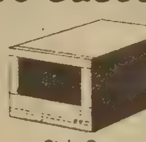
Special Purchase Means Lower Prices on SCSI Drive Cases!

All drive enclosures feature fan-cooled power supplies, SCSI address switches and ICN50 connector knockouts.
Styles A&B include ribbon cable, the others do not. Inquire about our selection of SCSI cables when ordering.

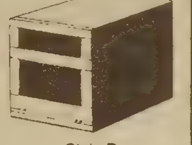
A.	SLHD	45W P.S.,	Room for single internal drive, removeable 5.25" bezel	10.25" x 11" x 2.5"	$69.95
B.	SLHD1	55W P.S.,	Room for single drive, choose open or closed face	10" x 10" x 2.25"	$79.95
C.	SLHD2	60W P.S.,	Front opening for two half-height drives	7.5" x 12" x 6.5"	$99.95
D.	SLHD3	60W P.S.,	Front openings for three half height drives	7.5" x 12 x 9"	$109.95



Styles A & B



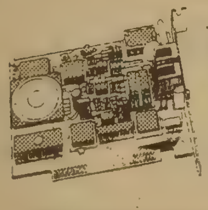
Style C



Style D

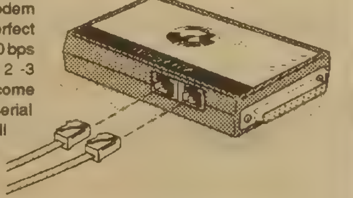
Modems for the Masses!

Yes, technology keeps forging ahead, which means that some items get left behind, but that also means they get very affordable! These modems are not the latest 14,400 bps V.32bis with fax and voice message capability, but they definitely have a price advantage. If you aren't sure yet if you want to wade into the on-line world, here are some entry-level ways to try it out!



1. Rock-bottom pricing on internal modem cards...1200 bps for only $4.95! New-in-box Everex Evercom-12 internal short card modem (similar to illustration at left) comes with Bit-Com communications software, manual and telco cable, and as a bonus there is a starter pack for "America Online" that offers a free trial of this popular dial-up service for a month. That's a $9.95 value, and you get 10 free hours to try it out. There can't be a cheaper way to test drive the Data Highway!
HSC# 14592 $4.95

2. Slightly more exotic powers of communication are yours when you acquire the PCI Travelcom "pocket" modem shown below. This tiny (2.75" x 4.75" x 1") gem is perfect for laptops on the go! It communicates at a rapid 9600 bps (V.32) with MNP error correction, and will run for 2 -3 hours on a 9V battery. These are new in the box, come with a manual, AC Adaptor, telco cable and two serial adaptor cables (one for IBM and one for Mac), as well as your first battery! Now you don't need to leave the Data Highway when you're on the road!
HSC# 14583 $89.95



Miscellaneous Data Communications Devices (not shown, limited quantities available):

3. **Everex Evercom II-24 Modem for PS/2 - MicroChannel Bus- 2400 bps, new in box, Hayes compatible, comes with Bit-Com software (3.5" diskette), manuals, telco cable. HSC#14591 $19.95**

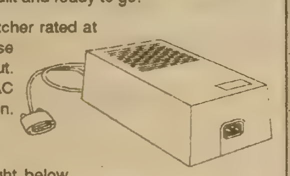
4. **Abaton Interfax (by Everex) Fax/Modem for Mac** - 2400 bps modem, 4800/9600 bps fax, new in box, comes with software, cables, sorry, all have 220VAC Adaptors. HSC#96071 $42.50

5. **2400 Baud Modem PC Board** (RS-232 external type) 3.25" x 6", no enclosure avail. Hayes compat., new, fully assembled PC Board, requires 8-12VDC power adaptor. HSC# 14467 $8.95

Power Supply Project Starters

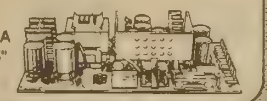
Nearly any electronic project you do these days is going to need 5, 12 and -12 voltsin order to wake up and dance, so here are some handy powersupplies already built and ready to go:

A. Enclosed supply (illustrated at right) has small Astec switcher rated at 5VDC @ 3A, +12VDC @ .65A and -12VDC @ .15A in a case measuring 4" x 6.5" x 2.5" with a DE9 female plug as the output. Uses standard IEC line cord (not included). Wired for 220 VAC input, we show you which jumper to move for 110 operation. Remove it from the case and it is similar to "C" below.
HSC#14579 $9.95



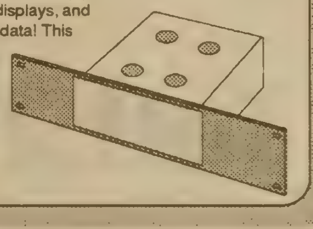
B. Open frame Protek switcher, new, similar to illustration at right, below.
110/220VAC input, 5VDC @ 3A, 12VDC @ 2A, -12VDC @ .3A output. Measures 3" x 5" x 1.5"
HSC #13728 $14.95

C. Open frame Astec switcher, new, similar to illust. at right.
110/220VAC input, 5VDC @ 2.5A, 12VDC @ 2A, -12VDC @ .1A
Three output connectors for 3.5" disc drives. Size 4" x 6.25" x 1.75"
HSC #14483 $19.95



Start of a Project...You finish it!

Do you appreciate fine workmanship? Do you need a rack-mount display unit with six BCD input seven-segment LED displays? Wouldn't you like to finish off this unit to be a clock, or elapsed time meter, or event counter? Then this item is for you! A 3.25" high 19" rack panel has a 7.5" x 10" vented chassis on the back that contains a 110VAC operated dual 5VDC power supply, a PC board with six HP 5082-7300 BCD decoder/driver LED displays, and a connector ready for wiring with your Binary-coded Decimal data! This unit has the typical mostly-hand-made look about it that you find in low-volume contract production by government contractors. The power supply is point-to-point wired, and features a nice flat power transformer. There is plenty of room for another circuit board of your own design. Made by Chrono-log Corp. Manual with schematics included.
HSC# 14635 $24.95



The Good Old Days...RF Parts Bargain!

Some younger enthusiasts may find this hard to believe, but hobbyists of yore actually used to get excited over finding circuit boards with interesting parts to unsolder! We're hoping there are still some people who appreciate this practice because we have some RF Network boards that have gobs of neat stuff...two Motorola MC145156P1 Synthesizer Chips, three Mini Circuits Labs SBL-1 Balanced Mixers, four VHF High-band Bandpass Filters, three SL560C 300MHz Lo-noise Pre-amp IC's, an FM Detector section built around an LM3089, a 3N211 FET, lots of Toko adjustable coils, etc. HSC# 14581 $4.95

Halted specialties co. **HSC** *Electronic Supply*

Toll Free (Orders Only) 1-800-4 HALTED (1-800-442-5833)

Retail Stores:
3500 Ryder St., Santa Clara, CA 95051 (408) 732-1573
4837 Amber Ln., Sacramento, CA 95841 (916) 338-2545
6819 Redwood Dr., Cotati, CA 94931 (707) 792-2277

Terms: Some quantities limited; all items subject to prior sale. **Minimum order: $10.00 plus shipping.** Orders under $20.00 subject to $2 00 handling fee, in addition to shipping All orders shipped FOB Santa Clara, CA (this means you pay freight!) by UPS Surface (no P.O. Boxes) unless otherwise specified, in which case prevailing carrier rate plus $5 00 handling fee applies. Prepaid orders that don't include shipping charges will be shipped freight COD. There is a $4.00 UPS charge added to shipping charges for COD shipments. If you have questions about your order, please call Customer Service at (408) 732-1854 M-F 9AM to 5PM PST

We Buy Excess Inventory!
OEM & Dealers Only

WE BUY EVERYTHING, SOFTWARE, PC & MAC HARDWARE, TERMINALS, IC'S, ETC.
"THE BIGGER THE QUANTITY THE BETTER!"
CALL OR FAX YOUR LIST
WE WILL RESPOND IMMEDIATELY

SOFTWARE BLOWOUT

MICROSOFT WORD 5.0 (MAC)	$75
MICROSOFT EXCEL 4.0 (MAC)	99
MICROSOFT OFFICE 4.0 FOR WINDOWS	350
NORTON DESKTOP 2.2 FOR WINDOWS	60
MICROSOFT WORD FOR WINDOWS W/BOOKSHELF	150
WORDPERFECT 6.0 FOR WINDOWS	199
WORDPERFECT 6.0 DOS	199
NORTON ANTI-VIRUS 2.1	50
QUICKEN BUSINESS PACK	39
QUICKEN 2.0 WINDOWS	19
QUICKEN 6.0 DOS	19

Strata Remarketing
(510) 656-9848
FAX (510) 656-9891
Fremont, CA 94538

Kodak Photo CD™

PROFESSIONAL SCANNER HAS ARRIVED!
LARGE FORMAT

- 4 x 5 – 2¼ – 35 mm
- Six levels of resolution
- File sizes up to 72 MB, 25-30 image pacs per CD-ROM
- Up to 4,000 x 6,000 pixels
- Storage cost 3 cents per MB
- Compare with SyQuest storage cost of more than $1 per MB

ALPHA CD IMAGING
640 Menlo Avenue, Suite 4
Menlo Park, CA 94025-4700
Call: 1-800-453-2988 or 415-325-4877
Fax: 415-325-4911
Photo CD™

Tell Them You Saw It In MICROTIMES™

AMIGA SIDEBAR

The CD-ROM manufacturers have been doing well in the past few months even without the overhyped multimedia market. Many PC manufacturers are selling multimedia PCs with CD-ROM drives, of course, but many are also selling CD-ROM drives on standard mid-range machines. These machines aren't really multimedia PCs because they don't have sound cards, and some don't even have accelerated graphics, but they do prevent PC users from having to install an internal CD-ROM drive, which could be quite a painful task.

Some PC manufacturers are taking advantage of this situation by putting Windows on CD-ROM as well as preloading it on the hard drive. An unfortunately large number of people have to reload Windows after it was first installed, otherwise the hard disk gets corrupted. Reloading Windows from CD-ROM takes about two minutes; reloading from diskettes takes at least ten minutes and takes lots of disk changes.

If more software manufacturers start putting their software on CD-ROM (particularly large Windows programs that take ten or more diskettes), people with CD-ROM drives will definitely appreciate them more, and may even be willing to pay a bit more for them. ■

WE SELL QUALITY, RELIABILITY, SERVICE & TECHNOLOGY!!

** PromoX SS II-40 WORKSTATION **

$4350

SUN SPARC 100% Compatible

16 MB RAM, 340 MB HARD DRIVE, 15" COLOR MONITOR & FRAME BUFFER SOLARIS 1.1 or 2.2

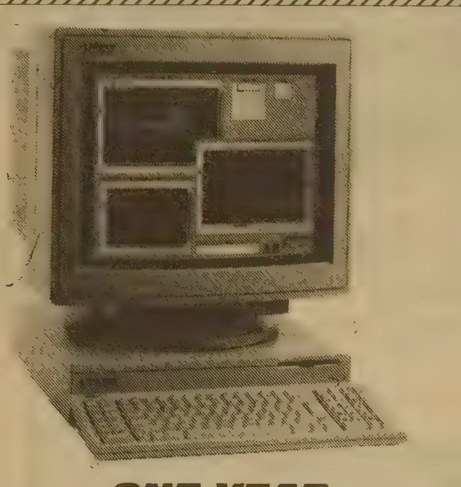
SSII-50	$4600	SS10-30	$6900
SS10-40	$7395	SS10-41	$8450
SS10-51	$9275	Motif 1.2.2	$195

External Toshiba CD-ROM (200ms) Switchable Between SPARC & PC ... $495

*** X TERMINAL/SERVER ***

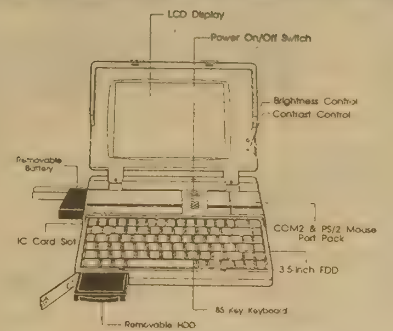
X Terminal 17" Color Monitor	$1695
X-Net For Windows(X11/R5 Server, TCP/IP, PCNFS, FTP, TELNET)	245
X-Net For DOS(X11/R5 Server, TCP/IP,PCNFS, FTP, TELNET)	195
PC-NET (TCP/IP, NFS, FTP, TELENET, DOS TAR & PRINTER ROUTER)	99

➡Come see our new technology–Multi-Network Environment



ONE YEAR ON-SITE SERVICE! BUY SS II AND GET X NET FREE!

** NOTEBOOK COMPUTER **



Supports UNIX/XWINDOWS Driver!

486 (SX-25, DX-33/50/66) LOCAL BUS Notebook
(Mono/Dual Scan Color/Active Matrix Color)

4MB RAM/120MB HD From **$1425**

I.D.E.A. Adapter Connects Your Cellular Phone w/Notebook ... $275

*** UNIX FOR PC ***

Ready To Run LINUX/GNU/X in CD	$49
LINUX w/Double Speed CD-ROM	225
PT Freeware for UNIX	60
X11R5/Motif 1.2 for SVR4/UNIXWare/SunSoft UNIX	290
SunSoft (Interactive) UNIX:	
Interactive UNIX/386 Base Solution (2 User)	$315
Interactive UNIX/386 Network Solution (2 User)	695
Interactive UNIX/386 Graphics Solution (2 User, Tape)	895
Interactive UNIX/386 Software Development System	555
Interactive UNIX/386 X11 Development System	315
Interactive UNIX/386 Motif Development System	275
Solaris 2.1 Desktop for x86	525
Solaris 2.1 Workgroup Server for x86	1375
Solaris Driver Developer's Kit for x86	225
Solaris 2.1 for x86 ProWorks C	975
Solaris 2.1 for x86 ProWorks C++	1455

SCO UNIX (ODT):	
SCO Open Desktop 3.0 (CD-ROM)	$835
SCO Open Server Enterprise System (CD 16 User)	1535
SCO Open Desktop Development System	1255
SCO Open Server Network System (CD 16 User)	1325
SCO UNIX (2 User)	415
SCO UNIX (16 User)	905
SCO UNIX Development System	905
SCO TCP/IP for SCO UNIX	395
SCO NFS for SCO UNIX	625
Univel UnixWare:	
UnixWare Personal Edition (CD ROM/Tape)	$165/195
UnixWare Software Development Kit & Utilities	85
UnixWare Application Server	910
UnixWare Server Merge for Windows	290
UnixWare NFS	155
UnixWare C2 Auditing	155
UnixWare On Line Data Manager	1755
* UnixWare Personal Edition + SDK	240

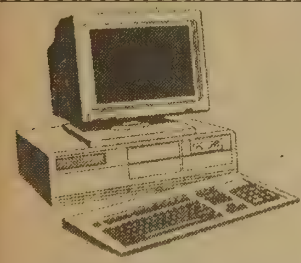
*** NETWORKING ***

Novell Lite + NE 2000 Compat. Ethernet Card	$85
Novell Netware 3.12 (5/10/50)	625/1275/2395
Novell Netware 4.0 (5/10/50)	825/1675/3175
NE-2000 Compatible 16-bit Ethernet Card (Novell Certified)	50
10 BaseT 8 Port Hub	190
10 BaseT 12 Port Intelligent Hub	400
SMC (Western Digital) 16-bit Ethernet Card (Coax/10BaseT)	120/125
SMC/NE2000 16-bit Compatible Ethernet Card	70
Pocket LAN Card	100
3 Com 3C509 Ethernet III	120
Intel Ether Express	115

SPECIAL!!!

5 PACK NE2000 COMPATIBLE ETHERNET CARDS

$225



PENTIUM/486 UPGRADABLE LOCAL BUS SYSTEMS

Guaranteed To Run UNIX, OS/2, Windows NT, Novell, PICK

PENTIUM/66 MHz (512K Cache)	$2730
PENTIUM/60 MHz (512K Cache)	2300
AIR 486/66 MHz EISA	1865
486/66 MHz ISA/EISA	1585/1695
486/60 MHz EISA	1695
486/50 MHz ISA/EISA	1540/1640
486/33 MHz ISA/EISA	1375/1480
486/40 MHz (AMD) ISA	1360
486SX/33 MHz ISA	1210
486SX/25 MHz	1180
IBM BLX3/75 MHz (64 Cache)	1730
IBM 486SLC/66 (64K Cache)	1295
IBM 486SLC/50 (64K Cache)	1230

- 256K Cache, 4 MB RAM (60ns)
- Mini Tower Case w/230W UL PS
- 240 MB HD, Teac 1.2 & 1.44 MB FD
- Local Bus IDE Controller with 2S/1P
- Trident Local Bus 1MB SVGA Card
- 15" .28 NI SVGA Monitor
- Microsoft Compatible Serial Mouse
- Keytronics 101-Key Keyboard

WINDOWS

Windows 3.1 (w/System Purchase Only)	$55
Windows For Workgroups (w/System Purchase Only)	65
Windows NT	315
Windows NT Advanced Server	965
MS Office	465

Monitor & Video Cards

ET4000 VLB 1MB	$95
ET4000/W32 VLB 1MB	120
Orchid Fahrenheit 1280 VLB 1MB	145
ATI Ultra Pro 2MB	350
14" SVGA (.28mm) Monitor	245
NEC Tube 15" NI Monitor (72Hz)	340
Viewsonic 15" Non-Interlaced Monitor .28mm	475
ADI 17" (1280x1024 .26mm Dot Pitch)	790
Relisys 20" (1280x1024 .31mm Dot Pitch)	1300

Tape Back-Up Options

Archive 2150S SCSI 1/4" Tape Drive	$345
Archive 2525S SCSI 1/4" Tape Drive	515
Wang DAT 3100 2GB DAT Drive	995
Wang DAT 3200 4-GB DAT Drive	1055
Exabyte 8505C 5-10 GB SCSI DAT Drive	2275
Exabyte 82055 2 GB Tape Drive	1475

UNIX / NOVELL / LAN MANAGER NETWORK INSTALLATION / MAINTENANCE

Hard Drive & Controllers

Promise Local Bus IDE Cache Controller	$127
Adaptec 2842 Local Bus SCSI Controller	300
Adaptec 1542C SCSI Controller	190
Adaptec 2742A EISA SCSI Controller	335
Ultrastor 34F Local Bus SCSI Controller	265
Bus Logic Local Bus SCSI Controller	255
240 MB IDE/SCSI Hard Drive	235/250
340 MB IDE/SCSI Hard Drive	270/340
520 MB IDE/SCSI Hard Drive (8.5ms)	450/485
1.0 GB SCSI Hard Drive (10ms)	825
1.7 GB SCSI Hard Drive (10ms)	1230
2.1 GB SCSI Hard Drive (11ms)	1499
3 GB SCSI Hard Drive (11ms)	2475

MOTHERBOARDS

EISA Local Bus (2 Slot) 256K Cache	$225
AIR EISA Local Bus (1 Slot) (Up to 256 MB On Board) 256K Cache	375
Pentium Local Bus w/512K Cache	435
ISA Local Bus (2 Slot) 256K Cache	105
386/40 Motherboard & CPU 128K Cache	105

MULTIMEDIA-Free Installation

CD-ROMS		SOUND CARDS	
NEC 3xi (SCSI)	$525	Gallant 4000 (8-Bit)	$67
Panasonic CR532 (SCSI)	345	Sound Blaster Pro 16 Basic	135
Panasonic CR562 (AT BUS)	180	Sound Blaster Pro 16 ASP	199
Sony 31A-03 (AT BUS)	170	Pro Audio Spectrum 16	135
Sony 561 (SCSI)	350	Pro Audio Studio	199
Toshiba XM3401 (SCSI)	360	CD TITLES	CALL

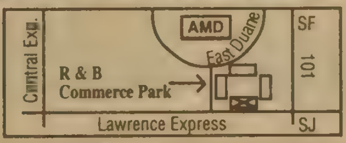
Some Of Our Satisfied Customers:

- AMD
- Cadence
- DCA
- Ford
- Fujitsu
- IBM
- ISSI
- Lockheed
- McDonald Douglas
- Microsoft
- Quantum
- San Jose State
- Santa Clara Univ.
- Stanford Univ.
- Winband

PromoX Systems

1050 East Duane Ave., Suite B
Sunnyvale, Ca 94086

Since 1990



Tel: (408) 733-2966
Fax: (408) 733-2968

E-Mail Address: promox@cup.portal.com

Hours: Mon-Fri 9-6 Sat 10-4

Prices Subject To Change W/O Notice • 2% OFF Cash Purchases

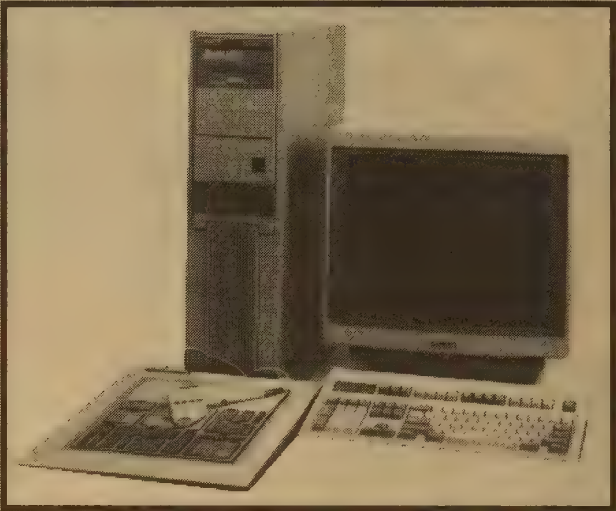
Sparc registered trademark of Sparc International Inc.

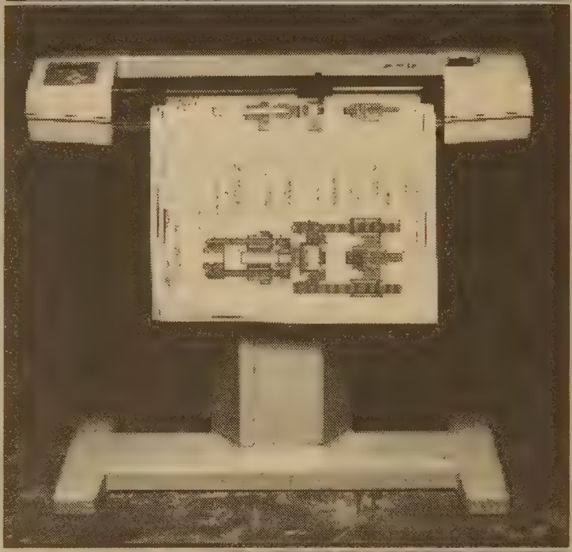
CAD/MULTIMEDIA

CAD VL-bus Workstation

- 80486 DX2/66 CPU(Ugradable to **P24T** CPU), 256KB Cache
- **16MB** Memory(32MB Max.), 1.2 & 1.4MB Floppy drive
- **340MB** IDE Hard drive, **IDE VL-Bus** Controller, MS Serial Mouse
- Full vertical case, Dual cooling Fan, Heat-Sink, MS DOS 6.2
- **Matrox MGA Ultima VL-BUS** Board(1280X1024, 256 Clolors)
- **17"** Flat Screen Color Monitor(**1280X1024**)
- 101 Keyboard, 2 serial / 1 Parallel port
- **Free S/W & H/W Integration**

$3,495





Windows Workstation

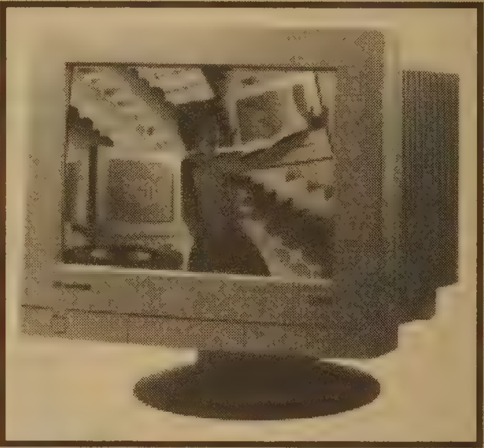
- Intel 80486DX/66MHz CPU. **8MB** memory, **PCI M/B** W/256KB Cache
- TEAC 1.2MB & 1.44MB Floppy Drive, **IDE PCI** Controller
- MicroSoft Serial Mouse, Keytronics 101 Keyboard
- 2S / 1P ports, Mid Tower case, DOS 6.2, Windows 3.1
- **17" Trinitron Monitor (72Hz at 1024X768), 340MB** IDE Hard drive
- Matrox **MGA II PCI** Graphics Card with **2MB** Memory

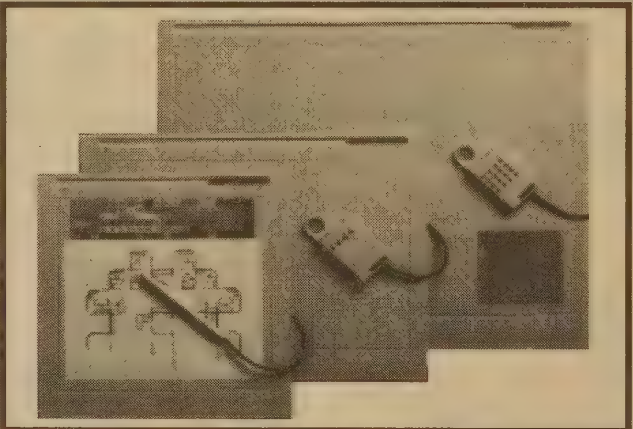
The BEST Value $2,895

Graphics Workstation

- **Pentium 60Mhz CPU**, 512KB Cache, MS DOS 6.2, MS Windows 3.1
- **16MB** RAM(128MB Max.), **540MB SCSI II** Hard drive, **SCSI II VLB** Controller
- 2 serial/1 parallel port, Mid Tower Case w/ 250W Power Supply
- **Media Vision ProGraphics VL-BUS** (24 bit colors at 1024 X 768)
- TEAC 1.2 & 1.44MB Floppy Drive, MicroSoft Serial Mouse
- **17" Trinitron** color monitor, Keytronics 101 Keyboard, **Free S/W & H/W Integration**

NEW PENTIUM SYSTEM $4,295





Interactive Multimedia

IBM

- **IBM ValuePoint 486/33 System**. 256KB Cache
- **8MB** RAM(32MB Max.). **340MB** IDE Hard drive. 1.44MB Floppy Drive
- IBM Mouse, IBM 101 Keyboard, 2 serial / 1 Parallel port
- Built-in VGA board(1024X768), **Toshiba 3401 CD ROM(200ms, 380KB/S)**
- **Media Vision Proaudio 16** sound card, Amplified speaker
- **Intel Smart Video Recorder** continuous frame capture board
- includes MS Windows 3.1, Video for Windows, Asymetrix Compel, Asymetrix MediaBlitz and more, MS DOS 6.2
- **Free S/W & H/W Integration**

$3,395

Upgrade Your 286/386 to Fast 486 VEISA computer System

- 2 Local Bus, 3 EISA, 3 ISA Bus Slots
- Costomize Your System to your needs
- 256 KB Cache Standard
- Free Technical Support, Backup
- Up to 128 MB RAM Support
- Call us for best pricing

Hercules 9 METHEUS WACOM intel. MICROTEK *Better Images Through Innovation.*

GRAPHICS/PUBLISHING

WACOM

Pressure Sensitive

Art Z (6X8)
* With Soft Pressure Sensitive stylus
* Ideal for graphic design and handwriting input

PC/Mac **$375/$345**

SD-420E(12X12)
* With Firm Pressure Sensitive stylus
* Ideal for CAD, graphic art, desktop publishing

$695

TRUEVISION
A RasterOps Company

Targa+ / ATVista

The Best Multimedia
* TARGA+ 16 / 32 / 64
* ATVista 1M / 2M / 4M
* Bravado
* TIPS
* Truevision 1024 / 32

$Call

matrox

MG3D / MG3D Ultra

MGA Impression
* 1024 X 768, 24 bit Colors
* 3D Dynaview for AutoCAD

MGA Pro
* 1280 X 1024, 24 bit Colors
* 3D Dynaview for AutoCAD

VLB, PCI, ISA, MCA **$Call**

MICROTEK
Better Images Through Innovation.

ScanMaker

ScanMakerIISP
* Flatbed 24 bit color scanner
* 1200 dpi, Single Pass

$ 795

ScanMaker35T
* 24 bit 35mm, film scanner
* 3656dpi,256 gray scale,PhotoStar S/W

$1,395

Media Vision

ProGraphics 1024/1280 VLB

True Color at 1280X1024
* Workstation Performace
* Hi refresh rate(1280X1024)
* 4MB VRAM Standard(2MB for 1024)
* Built-in VGA

$495/695

HOUSTON INSTRUMENT®
A Summagraphics Company

Ink Jet Plotter (V50)

20X faster
* 360X360 dpi A-C size, Inkjet Plotter
* Up to 20 time faster than Pen Plotter
* HPGL/2, HPGL, Emulates IBM XL24
* 1MB Buffer, 2M & 4M(Optional)
* Single sheet or rollfeed (Option)

$1,595

FARGO

Primera Color Printer

Thermal Wax Printer
* 4 times faster than Inkjet
* Presentations graphics, transparencies
* Windows 3.1 Driver
* Very low cost to operate
* Deliver rich and vibrant Images
* **Photorealistic Upgrade**($240)

$795

CASIO

Zoomer(Z7000)

* Store your handwritten notes
* 1MB RAM and 4MB ROM
* Touch sensitive screen
* PCMCIA 2.0 slot
* Datebook,address book
* America Online, Notebook Plus
* Poket Quicken, games
* mini-serial port

$575

MONITORS

* 37" Mitsubishi Scan/Pro	$ Call
* 33" Mitsubishi Diamond Scan	$ Call
* 21" NEC 6FGP	$2,445
* 21" Viewsonic 21"	$1,825
* 21" Hitachi Accuview PS21	$2,095
* 21" Hitachi Accuview PS21AM	$2,395
* 21" NSA SuperScan Pro21	$2,095
* 21" Nanao F760iw	$1,995
* 20" Mitsubishi Diamond Pro 20	$2,095
* 20" Nanao T660i	$2,295
* 20" SONY 2038	$2,245
* 20" Viewsonic 20"	$1,595
* 20" NSA SuperScan 20S	$1,395
* 20" Sampo AlphaScan	$1,095
* 17" Mag	$ 945
* 17" NEC 5FGp	$1,395
* 17" Nanao T560i	$1,625
* 17" Nanao F550iw	$1,095
* 17" Mitsubishi Diamond Pro17	$1,095
* 17" Sony 1730S	$1,095
* 17" Sony GDM 17SE1	$1,195
* 17" Viewsonic 17	$ 995
* 14" Sampo AlphaScan	$ 345

GRAPHICS CARD

* #9GXI TC L29	$1,395
* #9GXI L23 / 25	$999 /1,245
* #9GXE L11/12/14	$349/429/695
* Artist XJS 12-16	$ 2,195
* Artist XJ1000	$1,195
* Artist Winsprint 1000	$1,135
* Hercules Graphite 1M	$295
* Metheus 1104+16/256	$995/1,095
* Metheus Premire 1M/2M	$375/575
* Matrox 3D Ultra	$Call
* Matrox MGA Pro 4.5M / V	$1,095
* Matrox MGA II/II Plus	$495/$545
* Matrox MGA Impression 3M/V/H	$745
* MediaVision ProGraphics 1280	$695
* MediaVision ProGraphics 1024	$495
* Vermont X/Series 16/256	$1595/1795
* Vermont Cobra Elite	$995
* Super Mac Spectrum 24	$945
* Diamond VIPER VLB/PCI 2MB	$385/$445
* ATI Graphics Ultra Pro 2MB	$369(I)/389(V)
* ATI Graphics Ultra + 2MB	$275
* TrueVision 1024/32	$1,595
* TrueVision 1024XP/24	$1,295

PLOTTERS

* Calcomp 2036 (A-E)	$4,095
* Calcomp 2024 (A-D)	$3,195
* HP DesignJet (A-E) 600 dpi	$6,195
* HP DesignJet (A-D) 600 dpi	$5,295
* HP DesignJet 650C(A-D)	$6,995
* HP DesignJet 650C (A-E)	$8,295
* HP 7599B (A-E)	$7,695
* HP 7596C (A-E)	$6,695
* HP 7595C (A-E)	$5,295
* HP DraftPro + (A-E)	$4,195
* HP DraftPro + (A-D)	$3,195
* HP 7475A (A-B)	$1,495
* H.I.DMP 162R (A-E)	$4,385
* H.I. HIPLOT 7100 (A-D)	$2,795
* H.I. HIPLOT 7200 (A-E)	$3,495
* H.I. JetPro (A-C) V 50	$1,595
* H.I. JetPro (A-C) V100	$1,995
* Enter SP600 (A-B)	$ 695
* Mutoh XP-511 (A-D)	$ Call
* Roland GRX350 (A-D)	$3,495
* JDL 850XP-1M (A-C)	$2,895
* AMT Accel244 (A-C)	$ 895
* PacificData InkJet (A-C)	$1,195

DIGITIZERS

* Calcomp 44 X 60	$1,895
* Calcomp 36 X 48	$1,695
* Calcomp 18 X 24	$1,295
* Calcomp 12 X 18	$ 395
* Calcomp 12 X 12	$ 245
* Calcomp 12 X 12(P.Sen)	$ 495
* Calcomp DrawingSlate 9 X 6(P.Sen)	$ 275
* Summa S. MG2 36 X 48	$2,995
* Summa S. MG2 24 X 36	$2,595
* Summa S. MG2 17 X 24	$2,195
* Summa S. III 12 X 18/12 X 12	$595/$315
* Kurta XGT 12 X 12	$ 645
* Kurta IS/ONE 12 X 12/12 X 17	$345/595
* WACOM 18 X 25	$2,995
* WACOM 12 X 18	$1,195
* WACOM 12 X 12 UD	$ 595
* WACOM Art-Z PC/Mac	$375/345

COLOR PRINTERS

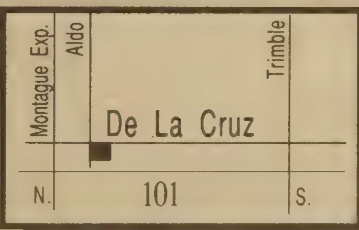
* Seiko ColorPoint PSX	$4,995
* Seiko ColorPoint PSE	$2,595
* Mitsubishi S3410 (DyeSub)	$6,995
* Kodak Color Ease	$6,495
* Fargo Primera(Thermal Wax)	$ 795

JEMINI
ELECTRONICS
The house of CAD & Graphics Equipment

Business Hours 8AM-6PM(M-F),10AM-4PM(Sat)

3448 De La Cruz Blvd., Santa Clara, CA 95054
Phone (408)727-9986 Fax (408)727-7687

* Price reflects 3% cash discount
* Price subject to change without notice
* Not responsible for typographical errors
* All trademarks belong to their respective companies



Free Technical Support. New Low Price! Please call for other products

NANAO®

CalComp
A Lockheed Company

RASTEREX

HEWLETT PACKARD

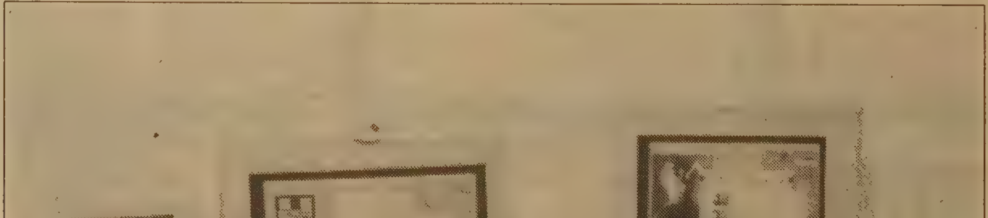
Multi & Media beyond

Mac Quadra AV

Awesomely Versatile

BY TONY REVEAUX

Step by step, multimedia capabilities are steadily moving into mainstream computing. The Macintosh started it by having sound included with every single unit—or "native" to the architecture—and supported by consistently modeled application tools for the developer. This meant that any software or peripheral they produced could include sound calls and work on all Macs.



Macintosh Centris ™ 660AV and Macintosh Quadra ™ 840AV. Courtesy of Apple Computer, Inc. Photo by John Greenleigh.

Copyright © 1994 by Tony Reveaux. All rights reserved.

Tony Reveaux, a San Francisco-based consultant, writes the "MediaScan" column in Film/TapeWorld. *He can be reached via Usenet (luna@well.sf.ca.us) or MCIMail 290-3008.*

"Your Solution To Computing"
LIFETIME LABOR WARRANTY!

Vesa Local Bus-Multimedia Systems

VESA 486 DX2-66/50

- VLB 486DX Motherboard w/256K Cache w/Cooling Fan
- Pentium Overdrive P24T Ready
- 16 MB RAM Exp to 64 MB
- Teac 1.2 & 1.44 MB Floppy Drives
- 425 MB IDE Hard Drive
- Spider Black Widow w/1 MB VRAM 16.7 Million Colors, Windows Accel.
- 32 Bit VLB IDE I/O Controller w/2 S, 1P, 1G Ports
- ViewSonic 15 NI 27dp SVGA Flat Screen Monitor, Low Radiation
- Full Size Tower Case w/250W PS
- Keytronic Keyboard
- Microsoft Mouse (Serial)

MULTIMEDIA PACKAGE

- Sound Blaster 16-SCSI II
- Supports 7 SCSI Devices Upgradable to ASP
- Toshiba 3401B SCSI-II CD-ROM
- Shielded Speakers

INTEL 486 DX2-66	$2849
INTEL 486 DX-50	$2799

VESA 486DX2-66/50/33

- VLB 486DX Motherboard w/256K Cache w/Cooling Fan
- Pentium Overdrive P24T Ready
- 8 MB RAM Exp to 64 MB
- Teac 1.2 & 1.44 MB Floppy Drives
- 340 MB IDE Hard Drive
- Orchid Fahrenheit w/1 MB RAM 16.7 Million Colors, Windows Accel.
- 32 Bit VLB IDE I/O Controller w/2 S, 1P, 1G Ports
- ViewSonic 15-15" NI .27dp SVGA Flat Screen Monitor, Low Radiation
- Medium Tower Case w/230W PS
- Keytronic Keyboard
- Microsoft Mouse (Serial)

MULTIMEDIA PACKAGE

- Pro-Audio Spectrum 16-SCSI
- Toshiba 3401B SCSI II CD-ROM
- Shielded Speakers

INTEL 486 DX2-66	$2349
INTEL 486 DX-50	$2277
INTEL 486 DX-33	$2156

VESA 486DX2-66/50/33

- VLB 486DX Motherboard w/256K Cache w/Cooling Fan
- Pentium Overdrive P24T Ready
- 4 MB RAM Exp to 64 MB
- Teac 1.2 & 1.44 MB Floppy Drives
- 340 MB IDE Hard Drive
- Genoa 8500 w/1 MB RAM 16.7 Million Colors, Windows Accel.
- 32 Bit VLB IDE I/O Controller w/2 S, 1P, 1G Ports
- ViewSonic 6E NI .28 SVGA 14" Monitor
- Medium Tower Case w/230W PS
- Keytronic Keyboard
- Microsoft Mouse (Serial)

MULTIMEDIA SPECIAL

- Sound Blaster 16
- Panasonic 562-B CD-ROM, Double Speed
- Shielded Speakers

INTEL 486 DX2-66	$1846
INTEL 486 DX-50	$1800
INTEL 486 DX-33	$1654

VESA 486DX2-66/50/33

- VLB 486DX Motherboard w/256K Cache w/Cooling Fan
- Pentium Overdrive P24T Ready
- 4 MB RAM Exp to 64 MB
- Teac 1.2 & 1.44 MB Floppy Drives
- 340 MB IDE Hard Drive
- Genoa 8500VL w/1 MB VRAM 16.7 Million Colors, Windows Accel.
- 32 Bit VLB IDE I/O Controller w/2 S, 1P, 1G Ports
- ViewSonic 6E NI .28dp SVGA Monitor
- Medium Tower Case w/230W PS
- Chicony 101 Enhanced Keyboard
- Microsoft Compatible Mouse

INTEL 486 DX2-66	$1498
INTEL 486 DX-50	$1445
INTEL/AMD 486 DX-33/40	$1297

CD-ROMS

NEC 3Xi 180ms, 450Kb/s	$469
Toshiba 3401B 200ms, 330Kb/s	329
Chinon CD535 280ms, 330Kb/s	319
Texel 3028 240ms, 330Kb/s	285
Teac CD50 265ms, 330Kb/s	285
Panasonic 5628 320ms, 300Kb/s	169

SOUND CARDS

Sound Blaster 16 SCSI II ASP	$195
Sound Blaster 16 SCSI II	175
Sound Blaster 16 MCD	149
Sound Blaster 16	124
Sound Blaster Pro	92
Pro Audio Spectrum 16 SCSI	125

NOW OPEN

SATURDAY & SUNDAY
11AM-5PM
AT OUR
NEW LOCATION
3081 LAWRENCE EXRESSWAY
SANTA CLARA
(Corner of Central Expressway)

MOTHERBOARDS

386 DX-40 w/128K	$98
486DLC-40 w/128K	159
486SX-25 w/128K	159
486DX-33/50/66 w/256K No CPU	98
Vesa 486DX-33/50/66 w/256K No CPU	105
Genoa 486DX 33/50/66 w/256K	139
Vesa 486 SX-25 w/128K w/CPU	169
Air 486DX-33/50/66 w/256K No CPU	139

CASES

Full-Tower w/300W P.S.	$115
Full-Tower w/250W P.S.	89
Med-Tower w/230W P.S.	65
Mini-Tower w/230W P.S.	45
Desktop Case w/230W P.S.	60

SPECIAL-VESA 486SX-25

- VLB 486SX/DX Motherboard
- 128K Fast WriteBack Cache
- 4 MB RAM
- Teac 1.2 & 1.44 MB Floppy Drives
- 250 MB IDE Hard Drive
- 32 Bit VLB IDE I/O Controller
- 14" SVGA .28 Monitor
- Trident VLB SVGA Card w/1 MB 16.7 Million Colors, Window Accel
- Mini-Tower Case w/230W PS
- Microsoft Compatible Mouse

$987

VIDEO GRAPHICS CARDS

Diamond Viper w/2 MB VRAM	$359
Diamond Stealth Pro w/1 MB VRAM	239
Orchid Celcius w/1 MB VRAM	225
Orchid Farenheit VLB w/1 MB	139
Diamond Stealth VLB w/1 MB	139
Spider Black Widow w/2 MB VRAM	239
Spider Black Widow w/1 MB VRAM	179
Spider Plus VLB w/1 MB	100
Spider VLB w/1 MB	95
Genoa 8500 VLB w/1 MB	100

MISC.

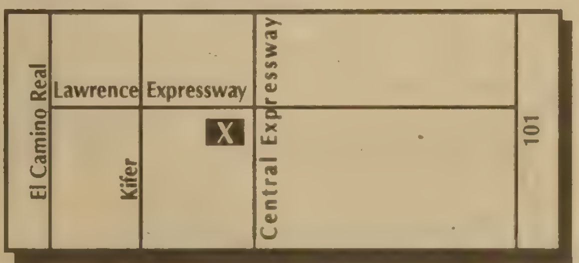
Intel 14.4/14.4 Fax Modem	$149
DSI Scout+14.4/14.4 Fax Modem	129
Zoltrix 96/24	35
Conner 250 Tape B/U w/Tape	139
Colorado 250 Tape B/U	159

* Lifetime Labor, 1 Year Parts

SoftMate Systems

TEL: (408) 738-0915
Fax: (408) 738-0917

Hours: Mon.-Fri. 9am-6pm/Sat.-Sun.: 11am-5pm
3081 LAWRENCE EXPRESSWAY
SANTA CLARA, CA 95051



To this day, it's still a different story on the DOS and Windows side, where every sound board seems to have a unique driver configuration that needs to be negotiated and plea bargained into the existing setup of your computer.

Now, with the success of QuickTime, motion is joining sound to become an expected mode for productivity, education, and entertainment. Motion is much more complex than sound to support, but Apple's AVs jump out of the box with video native to their systems.

MULTIMEDIA POWER BASE

The Quadra 840 AV ($4069–$6249) is a tower configuration with a 40MHz 68040 CPU sparked by a 66MHz AT&T 3210 DSP (Digital Signal Processor), while the Quadra 660 AV ($2489–$3449) is based on the "pizza box" enclosure of the Centris 610, and runs on a 25MHz CPU with a 55MHz DSP.

A DMA (Direct Memory Access) chip hastens the communication between RAM and SCSI, Ethernet, floppy and serial ports, and serial I/O ports. The new SCSI Manager runs the disk operations asynchronously to unburden the CPU. The NuBus 90 speeds data transfer rates up to four times faster. The CPUs also have NTSC and PAL, composite and S-video inputs and outputs, the modem/GeoPort port, and ADB ports.

The DAV (digital audio/video) or "Dave" slot on the motherboard of the 840—and with an adapter to the 660—accepts expansion cards that enjoy direct access to digital video and audio for processing. (Some applications and other software products still encounter incompatibility problems—some minor, some major—with the AVs; hardware products, such as compression boards, may need a ROM update, and others will not be adaptable at all. As with the IIfx before, and the PowerPC to follow, you should check ahead if you are integrating an AV into an existing system or plan to expand an AV with other components.)

This raw horsepower, focused through the DSP, enables the AVs to accomplish several feats usually possible only with add-on components and subsystems. Apple's PlainTalk speech recognition and synthesis is an advanced technology in itself—16-bit audio capture and playback affords CD-quality sound manipulation. The optional GeoPort Telecom Adapter supports telecom, virtual faxmodem, and (when available) videoconferencing. Real-time video-in can be displayed in a 640 x 480 window, and full-screen, full-motion video can be displayed out to an NTSC, PAL, or SECAM monitor.

MULTIMODE CAPABILITIES

The new Macintosh AV series is actually a multimode package in which video is only one component. The AVs are tomorrow's computers wrapped up in an all-talking, all-singing, all-dancing Mac package. The AVs, and especially the 840s, are the most powerful and versatile desktop machines around, short of the low-end workstations from Sun and SGI. Especially for multimedia and desktop publishing, they can often be more effective because of the greater variety and richness of Mac-based software that is available. The recent Macworld Expo revealed the overflowing treasure chest of image processing, special effects, and graphics packages that are morphing away to beat the band.

Apple chose to use the AVs not only to introduce an easy-to-use video-ready machine, but also as the platform to demonstrate other new and advanced, but consumer-accessible technologies. PlainTalk, based on the Casper voice-recognition technology (which actually works), enables you to verbally control the Mac, given enough memory. It can generate CD-quality stereo sound.

With the built-in GeoPort telecommunications architecture, the AV can serve as a digital answering machine, fax machine, and email station. I've seen demonstrations where it provided easy-to-use desktop videoconferencing over a network, with quite acceptable quality. When the world catches up to providing the phone lines that can support video, this Mac will be there. The reason the AV can do all of those things is because of the advanced processor architecture and the built-in DSP.

VIDEO ON BOARD

Video production professionals find that the AV is Not Ready for Prime Time—you can't do broadcast quality or high-end industrial level on a consistent basis. There is no on-board compression, nor is there genlock, or any component in or out. According to Erik Holsinger, author of *MacWEEK Guide to Desktop Video* (Ziff-Davis Press), "Output video quality and video capture rates were very low. For the most part, they're saying that it's 'industrial quality.' What that means is that it doesn't conform to the RS170A spec for video. What you have then is a machine that offers a lot of potential but doesn't give you a lot of power for your money right now."

You should expect to add third-party compression boards and other components to go pro. Out of the box, the AV is "video ready" rather than being able to provide full-service video. Many producers recognize that, and carry on from there. Charles

Macintosh Centris™ 660AV shown with an Apple® AudioVision 14 Display, Apple Adjustable Keyboard and mouse. Courtesy of Apple Computer, Inc. Photo by John Greenleigh.

GOLDEN MICRO COMPUTERS

BEST SERVICE IN TOWN

OPEN 7 DAYS

5 Years Labor Warranty
1 Year Parts Warranty
Extended Warranty Available!

$30 Apple Bus Mouse II

EVERY SYSTEM INCLUDES:

1 MB RAM, 120MB IDE Hard Drive, SVGA Monitor (1024x768, .28dp) & 1MB SVGA Card, 2 Teac Floppy Drives (1.2 & 1.44MB), IDE/IO Card, 2 serial, 1 parallel, and 1 game ports, 101 Enhanced Keyboard, Minitower or Desktop Case with Power Supply.

$48 200 WATT GREEN PC POWER SUPPLY Save 70% Energy

SYSTEM UPGRADES:

- Add $25 for 256K cache
- Add $50 for Green PC
- Add $120 for EISA Systems Including Interface Cards

VESA Local Bus 486DX 128K DX2-66/DX-50 DX-33 COMPLETE SYSTEMS

- Pentium Ready
- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
220/167/167/151 MHz

$1225/1175
$1015

486DX 128K DX2-66/DX-50 DX-33 COMPLETE SYSTEMS

- Pentium Ready
- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
220/167/167/151 MHz

$1175/1125
$965

486SX 128K SX-33/SX-25 SLC-33/25 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
112/90/90 MHz

$815/785
$765/745

386DX 128K 40/33 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- Shadow RAM

Landmark speed:
65/55/41 MHz

$725/715

386SX 40/33/25 COMPLETE SYSTEMS

- 1MB RAM exp. to 16MB
- Shadow RAM

Landmark speed:
43/34/23 MHz

$685/675
$665

CASE & POWER SUPPLY

Minitower w/200 Watt	$40
Desktop w/200 Watt	45
Mid Tower w/230 Watt	70
Full Tower w/250 Watt	90
200/230 Watt power supply	25/30
230/250 Watt (AT)	39/41
200 Watt Green PC Power Supply	48

VGA CARDS

EGA/VGA (8 Bit)	$16
VGA 800x600, 256K	24
Trident 512K	34
Oak 1MB	57
Trident (8900CL) 1MB	58
Tseng ET 4000	74
Oak 1MB WIN ACC (ISA)	59
Fahrenheit 1280 Win Acc (VESA)	145

ADD ON CARDS

Super I/O (16550) +IDE	$45
SCSI Controller (8 Bit)	38
SCSI +IDE	57
RLL Contrlller	39
Adaptec 1542C	175
DTC 3280	85
IDE + (RLL, SCSI, MFM)	35
MGP	14
Super I/O (16550)	29
I/O (2s, 1p, 1g)	13
4 Floppy Controller	25
Ethernet (8 Bit/16 Bit)	40/50
10 Base-T(16 Bit)	50

FLOPPY DRIVES

Teac 1.2MB 5.25"	$45
Teac 1.44MB 3.5"	39
1.44 Floppy Diskette	35¢

MISCELLANEOUS

387SX33/25 Math Co	$30/30
387DX-40/33 Math Co	40/40
MS mouse (OEM)	38
Logitech Mouseman (OEM)	40
Mouse	8
TV Tuner	99
Gallant Sound Card SC6000/SC5000/SC4000	149/119/89
Sound Pro Speakers 80W	70

CD ROM

Sony CDU31A/Double Speed	$145/180
Mitsumi/Doublespeed	145/180
Panasonic 562B Double Speed	179

KEYBOARDS

101 Enhanced/IBM P/S2	$17
Maxiswitch/Keytronic	28
Adaptor IBM AT	2.99

MODEM

2400 Baud Internal	$25
9600/2400 Fax/Modem	38
14,400 Fax/Modem Int./Ext.	119/139

MOTHERBOARDS & CPU

286-12/16	$30/40
386SX-25/33/40	60/65/75
386DX-16/25/33/40 no cache, no cpu	46
486DX-33/66 (no cache, no CPU)	45
386DX-40 128K	95
486SX-25/33 (CYRIX)	119/139
486SX-25/33 128K (Intel)	155/185
486DX-33 128K Intel	329
486DX-50 128K Intel	469
486DX2-66/128K (AMD)	450
486DX2-66 128K Intel	525

TAPE DRIVES

250 MB Colorado	$150
250 MB Archive	145
120 MB/250 MB Tape	18/18

MONITORS

12"/14" Mono (refurbished)	$45/55
14" Mono (Sealine)	80
14" Mono VGA	99
14" SVGA (.39)	185
14" SVGA (.28)	220
14" Non-Int SVGA	240
14" Microscan 3E+	320
15"Arche AXL	359
15" Microscan 4F	410

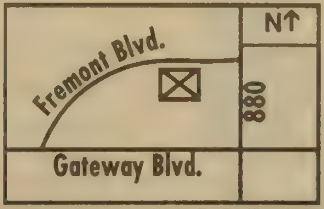
HARD DISK

80 MB Conner	$149
120 MB Conner/Maxtor	175
170/210 MB Conner/W.D.	179/219
245 MB Maxtor/Conner	225
340 MB Maxtor/Conner	255
350 MB SCSI (Quantum/Conner)	340
420 MB Conner/WD	425

PC Repairs & Upgrades Welcome

46560 Fremont Blvd, Suite 408 • Fremont, CA 94538
(510) 623-0866 (800) 588-0866
FAX (510) 623-0321
Hours M-F 9-7 Sat/Sun 10-5

Ad reflects cash discount • Prices subject to change without notice. • Not responsible for typographical errors.



GOLDEN MICRO COMPUTERS

MultiMedia & beyond

Wyke-Smith, a partner of Printz Electronic Design in San Francisco, says: "We find the Quadra 840 AV's horsepower combined with the compression capabilities of the Radius VideoVision board allow us to do full-screen at 60 fields-per-second with 640 x 480 resolution. Mostly we use the Quadra 840 AV when we're doing QuickTime. With the DSP chip, it just blazes—it's the fastest thing we can lay our hands on. Now we can do full-screen QuickTime, endlessly. We can just play it until our disk drive space runs out.

"The Quadra 840 AV is just faster than the Quadra 950. The 950 would take 'hits' on the digital video, where it would freeze and then move on. The 840 just scrapes under the barrier and allows us to do QuickTime fast. We use the NTSC video out on the 840 AV for laying scenes out on VHS for clients to see."

Terry Schussler of Gray Matter Design in San Francisco is a developer consultant who has worked on twenty CD-ROM titles in the last year. "Into a Quadra 840 AV I put in a Seagate Barracuda 2.1GB drive and added the full amount of 2MB of VRAM in order to have 24-bit color display capability, and a total of 24MB of RAM. I'm doing a lot of multimedia development work on Adobe Premiere and Macromedia Director.

"I've done video capture infrequently, mostly to do some rough videos, I'm doing work where I'm basically storyboarding on the video directions that I'm going to shoot later on, so I will input from a camcorder to QuickTime. I think it would be acceptable for in-house corporate department kinds of applications, but a lot of the video I work with is shot on Betacam SP, so I have to bring that into a serious environment. The whole computer environment itself only becomes a sort of comp area, and a delivery area for its final digitized form. I have explored solutions like the EyeQ DAV board, which is one of the best solutions you can use for video capture for CD-ROM." Thus far, the EyeQ is the only Dave board available. "The architecture is there—it just doesn't come with all the tools. If you canvass the community of multimedia developers, just about everybody will have a Quadra 840 AV, whether they bought it, borrowed it, or leased it."

VIDEOFUSION

What kind of video can you do with the AV? Apple has licensed SuperMac's VideoSpigot card technology for the AV's capture of video stills and motion sequences. Based on the Philips video capture chip, this 'Spigot provides similar frame rates to the $429 SuperMac card, and is optimized for QuickTime.

Without adding anything else, you can easily capture frames from any source and make QuickTime sequences. You can then output them to a TV monitor or print to videotape. Apple provides the software tools for this and for editing your QuickTime movies. You will find them on the installation CD-ROM or floppies that come with the machine. Apple's Video

Continued on page 313

RESOURCES:

Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
(408)996-1010

VideoFusion
1722 Indian Wood
Cir., Ste. H
Maumee, OH 43537
1-800-638-5253

SuperMac
215 Moffett Park Dr.
Sunnyvale, CA
94089-1374

Great Holiday Gift

GET A LIFE!

Use *Achieving Your Career* from Up Software
to make your life happen.

The program includes 11 tools: Resumes, Letters, Database, Contacts, Calendar, Research, Progress, Interviewing, Negotiating, Calling, & Learning.

"Even if you already know the color of your parachute and have a darn good resumé, Achieving Your Career can help you turn that clutter on your desk into the valuable, organized information you need to go to work to get a job." *– Steven Hanks, Macworld Magazine, 8/93*

"What an incredible tool for job seekers! I have been working in career development for 18 years and I think job seekers really need such a well integrated organizing product."
– Cici Mattiuzzi, Career Services,
Eng. & Computer Sci., Cal. St. U., Sac.

"Well worth the price, Achieving Your Career encourages you to build your job hunt on your accomplishments and not get stuck on your failures."
– Ellen Dendy, Windows Magazine, 11/93

Windows version available
from TestDrive Corp.
800 788-8055

$49

Macintosh version available
from MacWarehouse
800 255-6227

CALL 800 959-8208

Up Software, Inc.

Your Best CDROMs!

Cica MS Windows CDROM	4000 new Windows programs - quarterly updates	$ 29.95*
Giga Games CDROM	3000 hot Games for MSDOS and Windows	$ 39.95*
Space and Astronomy CDROM	Thousands of NASA images and data files	$ 39.95*
C User Group Library CDROM	A collection of user supported C source code	$ 49.95*
Simtel MSDOS CDROM	Classic: 650 MB Shareware / Freeware for MSDOS	$ 29.95*
QRZ! Ham Radio CDROM	FCC Callsign Database for Win & DOS + files	$ 29.95*
Gifs Galore CDROM	6000 mostly 640x480 GIF Images in every catagory	$ 39.95*
Gutenberg Project CDROM	Classic Literature and historical documents	$ 39.95
Hobbes OS/2 CDROM	600 MB always current Shareware/Freeware for OS/2	$ 29.95*
Source Code CDROM	650 MB of Unix & DOS source code for programmers	$ 39.95*
Internet Info CDROM	Thousands of computer, net, and internet documents	$ 39.95
X11/GNU CDROM	X Windows and GNU software for Unix and SPARC	$ 39.95
Aminet Amiga CDROM	650 MB new Shareware/Freeware for Amiga	$ 29.95*
GEMini ATARI CDROM	650 MB 3000 Programs for Atari - also for BBS use.	$ 39.95*
Ada CDROM	Programming tools, Ada source code and docs	$ 39.95*
Nova for NeXT CDROM	600 MB black NeXT app's, src., docs, etc	$ 59.95*
Nebula for NeXTSTEP Intel	600 MB NeXTSTEP Intel app's, docs, etc	$ 59.95*
Garbo MSDOS/Mac CDROM	MSDOS and Macintosh Shareware/Freeware	$ 29.95*
Fractal Frenzy CDROM	2000 high resolution fractals - royalty free	$ 39.95
FreeBSD CDROM	Berkeley BSD. 32bit O/S for PC, w/ GNU & X11. Src	$ 39.95
Linux CDROM	Yggdrasil Linux. 32bit O/S for PC, w/ GNU & X11. Src	$ 49.95
La Coleccion CDROM	MSDOS, OS/2, Windows. Spanish descriptions	$ 39.95*
Sprite CDROM	Berkeley's experimental Distributed OS for Sun's	$ 29.95
CDROM Caddies	Standard type, highest quality, Lifetime guarantee!	$ 4.95

*Shareware programs require separate payment to authors if found useful.

Walnut Creek CDROM
4041 Pike Lane,
Suite D-451
Concord, CA 94520
1-800-786-9907
1-510-674-0783
Fax: 1-510-674-0821
VISA
orders@cdrom.com
All Our Discs Are
Unconditionally
Guaranteed

What's Happening?

Check the MicroTimes Calendar of Events in this issue for computer-related classes, seminars, and shows in your area.

3470 Buskirk Avenue • Pleasant Hill, CA 94523 • (510) 934-3700

Continuing Acceleration For Windows

A Look At The Latest Windows Accelerator Cards From Three Companies That Have Been In The Business Since The Beginning

BY RICH GRACE

Copyright © 1994 by Rich Grace. All rights reserved. *Rich Grace is a free-lance and technical writer, and an enthusiastic user of PC, Mac, and Amiga platforms. He lives in Orange County.*

The pace of change in the PC world continues to increase. Not very long ago, products that were expected to sell for a couple of years are now lucky to last half that long. This is especially true in the video card market. Product development and marketing cycles have become so short that there is not only a dizzying array of cards available at any given point in time, but the selection of companies also quickly changes. (There are about two hundred companies selling cards in this market!)

Appropriately, we'll be looking at cards from three companies that have been in this business from the beginning, and who have long had a reputation for quality: ATI Technologies' Graphics Ultra Pro VL-Bus card, Hercules Technology Corporation's new Graphite ISA card, and Diamond's Stealth Pro VL-Bus card.

THE TEST SYSTEM

The cards were tested on a 486DX2-66 system with six ISA and two VESA Local Bus slots, 256K of external memory cache, 8MB of RAM, and a 550MB IDE hard disk. Two monitors were used: a KFC 17" based on a Hitachi tube, with a vertical refresh rate of 72Hz non-interlaced, and a Seiko CM1440 interlaced monitor using a 43Hz refresh rate. Both were set for 256 colors at 1024 x 768 resolution, and all tests were run at these video settings. The software included

BUY DIRECT FROM FACTORY & $AVE

Pixel USA Computer (408) 929-7218

MOTHERBOARD w/CPU

ISA Bus

386DX-40MHz w/ 128Kb	$99
486DLC-40MHz w/ 128Kb	$138

VESA Local Bus

Opti 386DX-40 w/ 128Kb (w/ AMD CPU)	$138
Opti 486DLC-40 w/ 128Kb (w/ TI CPU)	$158
486SX-25 w/ 256Kb (w/ INTEL CPU)	$168
486DX-33 w/ 256Kb (w/ INTEL CPU)	$353
486DX-40 w/ 256Kb (w/ AMD CPU)	$328
486DX2-50 w/ 256Kb (w/ AMD CPU)	$318
486DX2-50 w/ 256Kb (w/ INTEL CPU)	$378
486DX2-66 w/ 256Kb (w/ AMD CPU)	$483
486DX2-66 w/ 256Kb (w/ INTEL CPU)	$548
Alaris 486SLC2-66 w/ 64Kb (w/ CPU & Math)	$285
SIS 486SX-25 w/ 256Kb (ZIF) w/ INTEL CPU	$188
SIS 486SX-33 w/ 256Kb (ZIF) w/ INTEL CPU	$228
SIS 486DX-33 w/ 256Kb (ZIF) w/ INTEL CPU	$373
SIS 486DX-40 w/ 256Kb (ZIF) w/ AMD CPU	$348
SIS 486DX2-50 w/ 256Kb (ZIF) w/ AMD CPU	$338
SIS 486DX2-50 w/ 256Kb (ZIF) w/ INTEL CPU	$398
SIS 486DX-50 w/ 256Kb (ZIF) w/ INTEL CPU	$523
SIS 486DX2-66 w/ 256Kb (ZIF) w/ AMD CPU	$508
SIS 486DX2-66 w/ 256Kb (ZIF) w/ INTEL CPU	$568
AIR SH 486DX-33 w/ 256Kb (ZIF) w/ INTEL CPU	$388
AIR SH 486DX-50 w/ 256Kb (ZIF) w/ INTEL CPU	$538
AIR SH 486DX2-66 w/ 256Kb (ZIF) w/ INTEL CPU	$578
AIR MI 486DX-33 w/ 256Kb (ZIF) w/ INTEL CPU	$418
AIR MI 486DX-50 w/ 256Kb (ZIF) w/ INTEL CPU	$568
AIR MI 486DX2-66 w/ 256Kb (ZIF) w/ INTEL CPU	$618
AMI Super Voyager II 486DX-33MHz w/ 256Kb	$628
AMI Super Voyager II 486DX2-50MHz w/ 256Kb	$598
AMI Super Voyager II 486DX2-66MHz w/ 256Kb	$758
AMI Enterprise IV EISA VLB 486DX-33 w/ 256Kb	$748
AMI Enterprise iV EISA VLB 486DX2-50 w/ 256Kb	$718
AMI Enterprise iV EISA VLB 486DX2-66 w/ 256Kb	$888
PCI Local Bus 486DX2-50 w/ 256Kb (w/ AMD CPU)	$438
PCI Local Bus 486DX2-66 w/ 256Kb (w/ AMD CPU)	$598
P5 -60MHz VLB/ ISA w/ 512Kb	$1188
P5 -60MHz PCI/ ISA w/ 256Kb	$1208

INTERFACE CARDS

IDE 2HD & 2FD 2s, 1p, 1g	$13
IDE 4FD & 2HD & 2S (16550), 1P Support 2.88MB	$45
IDE VLB 2HD & 2FD 2s, 1p, 1g	$25
IDE VLB 4HD & 4FD 2s (16,550), 1p, 1g (2.88Mb)	$55
DTC 2278 IDE VLB (2FD 2HD, 2s, 1p, 1g)	$32
DTC 2277 IDE VLB Caching (0 ---> 16MB)	$135
DTC 3270VL SCSI VLB	$118
DTC 3290 EISA Bus Master (0Mb ---> 4Mb)	$388
Adaptec 1542CF or 1542CFK	$178 / $230
Adaptec 2842VL or 2742T Single	$288 / $268
UltraStor 34F SCSI VLB	$258
Bus Logic BT445s SCSI VLB	$228
A.I.R Qaccess IDE & SCSI VLB	$128
Promise DC-420 IDE VLB	$115
Promise DC-4030VL-II	$125

MONITORS

15"

14" (1024 x 768) .39 Interlaced	$185
14" (1024 x 768) .28 Interlaced	$218
14" (1024 x 768) .28 NI	$238
14" Acer 34T (1024 x 768) .28 NI	$278
14" ViewSonic 6E (1024 x 768) .28 NI	$285
14" ADI 3G (1280 x 1024) .28 NI (70Hz)	$318
14" NEC 1431 (1024 x 768) .28 NI (Low Radiation)	$328
15" ADI 4G (1280 x 1024) .28 NI (Low Radiation)	$398
15" SAMPO KDM-1566 (1280 x 1024) .28 NI	$388
15" ViewSonic 15 (1280 x 1024) .28 NI	$438
15" NEC 3V (1024 x 768) .28 NI (60Hz)	$528
15" Nanao F340iw (1280 x 1024) .28 NI	$598
17" Sampo 1767 (1280 x 1024) .28 NI	$698
17" ADI 5G (1280 x 1024) .26 NI (Low Radiation)	$868
17" ViewSonic 17 (1600 x 1280) .28 NI	$948
17" Nanao F550i (1280x1024) .28 NI	$948
17" Nanao F550iw (1280x1024) .28 NI	$1068
17" Sony GDM-17SE1 (New Model)	$1198
20" ViewSonic 20" (1600x1280) .28 NI	$1575
21" ViewSonic 21"	$1795

VIDEO CARD

Super VGA Card w/ 512Kb	$36
Windows Accelerator w/ 1Mb	$56
Super VGA Card w/ 1Mb (ET-4000)	$75
Windows Accelerator VLB w/ 1Mb (Trident)	$68
Windows Accelerator VLB w/ 1Mb (5424)	$68
Windows Accelerator + IDE VLB w/ 1Mb (5426)	$78
Windows Accelerator VLB w/ 1Mb (5428)	$88
Windows Accelerator VLB w/ 1Mb (ET-400032i)	$108
Genoa 8500 Windows Accelerator VLB w/ 1Mb	$95
Spider Windows Accelerator VLB w/ 1Mb	$95
Spider+ Windows Accelerator VLB w/ 1Mb	$110
Spider Black Widow VLB w/.1Mb	$175
Spider Black Widow VLB w/ 2Mb	$225
Orchid Fahrenheit 1280 VLB w/ 1Mb	$138
Orchid Celsius VLB w/ 2Mb	$258
Diamond Speed Star Pro VLB w/ 1Mb	$108
Diamond Stealth 24 VLB w/ 1Mb	$145
Diamond Stealth Pro VRAM w/ 1Mb	$245
Diamond Stealth Pro VRAM w/ 2Mb	$318
Diamond Viper VLB w/ 2Mb	$358
Diamond Viper PCI w/ 2Mb	$398
ATI Graphic Ultra Pro w/ 2Mb	$328
Other	$Call

HARD DISK & FLoppy Drive & CD ROM & Memory

Western Digital

213MB IDE 14ms (Caviar WD1210)	$198
250MB IDE 13ms (Caviar WD2250)	$218
340MB IDE 12ms (Caviar WD2340)	$268
420MB IDE 12ms (Caviar WD2420)	$328
540MB IDE 12ms (Caviar WD2540)	$448

Maxtor

130MB IDE 15ms (Maxtor 7120A)	$178
213MB IDE 15ms (Maxtor 7213A)	$208
245MB IDE 15ms (Maxtor 7245A)	$228
340MB IDE 14ms (Maxtor 7345A)	$268
540Mb IDE 8.5ms (Maxtor MXT-540A)	$418
340Mb SCSI 14ms (Maxtor 7345s)	$345
540MB SCSI 8.5ms (Maxtor MXT-540s)	$578

Quantum

170Mb IDE 17ms	$178
270Mb IDE 12ms	$228
340Mb IDE Fast	$268

Fujitsu

520MB 12ms IDE (M2624T) 3.5"	$448
520MB 12ms SCSI (M2624FA) 3.5"	$458
1.0GB 10ms SCSI (M2694ESA) 3.5"	$828
2.0GB 12ms SCSI-II (M2654SA) 5.25" FH	$1388

Conner

250MB 14ms IDE (CP30254)	$228

Floppy Drives

1.2Mb Floppy Drive (Teac)	$45
1.2Mb Floppy Drive (Teac) Black	$50
1.44Mb Floppy Drive (Teac)	$38
1.44Mb Floppy Drive (Teac) Black	$45
2.88Mb Floppy Drive (Toshiba)	$65
1.2MB & 1.44Mb Combo (Teac)	$108

CD-ROM Drives

Mitsumi w/ Controller (250ms)	$178
Panasonic CR562 (320ms Double Speed)	$178
Texel DM-3028 SCSI (245ms)	$268
Toshiba XM-3401B SCSI (200ms)	$338
NEC 3XI 190ms Triple Speed	$418

PC Memory SIMMS

1Mb by 9 70ns (3 Chips)	$38.95
4Mb by 9 70ns	$159.95
1x36-70ns (4Mb)	$149.95
2x36-60ns (8Mb)	$299.95
4x36-70ns (16Mb)	$614.95
4x36-60ns (16Mb)	$625.95

Special of the Month

Math 387sx-33MHz	$19.95
Hard Disk 540MB IDE 8.5ms (Maxtor MXT-540A)	$418
MotherBoard 486 VLB w/ 256Kb (No CPU)	$88
Logictech MouseMan Serial (Retail Box)	$35
Adaptec 2742T Single (EISA Bus)	$268

KEYBOARDS

101 Enhanced	$15
101 Enhanced Click	$25
Keytronic 101 Enhanced	$28
NMB 101 Enhanced Click	$45
Focus 9000 CLick w/ Calculator	$55
Focus 101 w/ TrackBall Mouse Build-in	$55
NorthGate Ultra	$95

MODEMS

Modem 2400 & Fax 9600	$38
Modem 14.400 & Fax 14,400 (Internal)	$118
Intel Modem 14.400 & Fax 14,400 (Internal)	$158
US Robotics Sporter 14,400 (Modem & Fax) Int.	$148
US Robotics Sporter 14,400 (Modem & Fax) Ext.	$163

MICE

3 Buttons Mouse Serial

$\$8^{95}$

Dexxa Serial Mouse	$19.95
Logictech Mouse Man Serial (Retail Box)	$34.95
Logictech Mouse Man Bus	$57.95
Logictech Portable Serial Mouse	$45.95
Microsoft Serial Mouse (Ergonomic)	$32.95
Microsoft Bus Mouse (Ergonomic)	$55.95

ACCESSORIES

CD Caddy	$3.98
Cpu cooling kit w/ heatsink & fan	$9.98
Cpu cooling kit w/ heatsink & fan (Pentium)	$19.98
MS-DOS 6.0	$19.95
MS-DOS 6.2 (w/ System)	$38
Windows 3.1 (w/ System)	$45
Math Coprocessor 387-40MHz	$34.95
Math Coprocessor 387SX-33MHz	$19.95
Speaker 80 Watts	$65.95

Case

Mini Tower Case + Power Supply 230W	$39.95
Mini DeskTop Case + Power Supply 200W	$49.95
Medium Tower Case + Power Supply 230W	$69.95
Full Size Tower Case + Power Supply 250W	$89.95
Black Tower (All Model)	$Call

Tape Backup

Colorado 120Mb Tape Back-up	$114.95
Colorado 250Mb Tape Back-up	$149.95

Sound Card (w/ Retail Box)

Sound Blaster 16 Basic	$128
Sound Blaster 16 MCD / 16 ASP MCD	$165 / $195
Sound Blaster 16 w/ SCSI-2 Interface	$185
Sound Blaster 16 ASP w/ SCSI-2 Interface.	$205
Media Vision Pro Audio Spectrum w/ SCSI (OEM).	$125

The Best Price in the Bay Area

Genoa 486 Series Vesa LB Systems

- Mother-Board w/ CPU (ZIF Socket)
- **256KB Cache**
- 4Mb Ram installed 70ns expandable to 32Mb
- IDE Controller Vesa LB 2HD & 2FD w/ 2s, 1p, 1g Port (32-bit)
- Floppy Drive 1.2Mb & 1.44Mb
- **Hard Disk 340Mb** IDE 12ms (Caviar WD2340)
- **Genoa 8500** Window Accelerator VLB **w/** 1Mb expandable to 2Mb (32-bit)
- 14" Super VGA Color Monitor (1024x768) **.28 Non-Interlaced**
- 101 Keys Enhanced Keyboard
- Mini Tower Case w/ 230 Watts Power Supply
- **FREE Microsoft Serial Mouse**

Intel486DX2-66	$1518
AMD 486DX2-66	$1458
Intel 486DX-50	$1478
AMD 486DX2-50	$1298
Intel 486DX-33	$1328
Intel 486SX-33	$1168

A.I.R 486 Series Vesa LB Systems

- Mother-Board w/ CPU (ZIF socket)
- **256KB Cache**
- 4Mb Ram installed 70ns expandable to 32Mb (30-pin)
- IDE Controller Vesa LB 2HD & 2FD w/ 2s, 1p, 1g Port (32-bit)
- Floppy Drive 1.2Mb & 1.44Mb
- **Hard Disk 340Mb** IDE 12ms (Caviar WD 2340)
- **Spider+** Window Accelerator Vesa LB **w/** 1Mb expandable to 2MB (32-bit)
- 14" Super VGA Color Monitor (1024x768) **.28 Non-Interlaced**
- 101 Keys Enhanced Keyboard
- Mini Tower Case w/ 230 Watts Power Supply
- **FREE Microsoft Serial Mouse**

Intel 486DX2-66	$1508
AMD 486DX2-66	$1448
Intel 486DX-50	$1468
AMD 486DX2-50	$1288
Intel 486DX-33	$1318
Intel 486SX-33	$1158

SIS 486 Series Vesa LB Systems

- Mother-Board w/ CPU (ZIF socket)
- 256Kb Cache
- **4Mb Ram installed 70ns expandable to 64Mb (72-pin)**
- IDE Controller Vesa Lb 2HD & 2FD w/ 2s, 1p, Port (32-bit)
- Floppy Drive 1.2Mb & 1.44Mb
- **Hard Disk 255Mb** IDE 13ms (Cavier WD-2250)
- Spider+ Windows Accelerator Vesa LB w/ 1MB expandable to 2MB (32-bit)
- 14" Super VGA Color Monitor (1024 x 768) **.28 Non-Interlaced**
- 101 Keys Enhanced Keyboard
- Mini Tower Case w/ 230 Watts Power Supply
- **FREE Microsoft Serial Mouse**

Intel 486DX2-66	$1468
AMD 486DX2-66	$1408
Intel 486DX-50	$1428
AMD 486DX2-50	$1248
Intel 486DX-33	$1278
Intel 486SX-33	$1118

486 & 386 Vesa Local Bus Systems

- MotherBoard w/ CPU
- 256Kb Cache
- 4Mb Ram installed 70ns expandable to 32Mb (30-pin)
- IDE Controller 2HD & 2FD w/ 2s, 1p, 1g Port
- Floppy Drive 1.2Mb & 1.44Mb
- Hard Disk 170Mb IDE 17ms (Quantum)
- Windows Accelerator Vesa LB w/ 1Mb
- 14" Super VGA Color Monitor (1024 x 768)
- 101 Keys Enhanced Keyboard
- Mini Tower Case w/ 230 Watts Power Supply
- **FREE** 3 Buttons Serial Mouse

AMD 486DX2-66	$1248
AMD 486DX2-50	$1088
Intel 486DX-33	$1118
Intel 486SX-33	$958
TI 486DLC-40	$928
AMD 386DX-40	$898

One Year Warranty Parts & Labor On Systems

- ☐ *Customize Configuration Available*
- ☐ *Financing Available*
- ☐ *24 Hours Turn-Around Time On Service*
- ☐ *All Systems Are Burned-In and Tested for 72 Hours*

Office Hours: Mon - Fri : 9:30 am - 7:00 pm · Sat.: 10:00 am - 6:00 pm

Price, term, availability subject to change without notice. Not responsible for typos.

Call Pixel USA BBS, 929-6981, 8N1, 4 lines, FREE access.

SAVE 3%
ON CASH
PURCHASE

1937 Tully Road • San Jose, CA 95122

(408) 929-7218

Fax: (408) 929-7244

VISA

MasterCard

PIXEL U.S.A.

RESOURCES:

Graphics Ultra Pro VLB,$899 (varies with configuration and RAMDAC)
ATI Technologies, Inc.
33 Commerce Valley Dr. E
Thornhill, ONT L3T 7N6, Canada
(416)756-0718

Hercules Graphite ISA, $399
Hercules Computer Technology, Inc.
3839 Spinnaker Ct.
Fremont, CA 94538
(510)623-6030

Diamond Stealth Pro VLB, $349
Diamond Computer Systems, Inc.
1130 E. Arques Ave.
Sunnyvale, CA 94086

Windows 3.1 and Adobe Type Manager, with TrueType disabled, unless otherwise noted. This last selection may have performance effects, as we shall see later.

Our benchmark programs were WinBench 3.11 WinTach 1.2, and Speedy 1.1 (see Sidebar for more information).

ATI'S GRAPHICS ULTRA PRO VLB

Canada-based ATI has a long history of innovation in the PC video card field. Their VGA Wonder was one of the first high-quality VGA cards on the market, almost four years ago. As an industry leader, it had a price to match—it listed for over $400 back then! (Can you imagine?) ATI was also one of the first to release a Windows accelerator card, and has subsequently since gone through two additional generations of Windows cards. One result of this work is that ATI became one of the two dominant companies in the video card industry (Diamond being the other).

Recently, to maintain their status as a leading-edge company, ATI released an exceptional but quirky product line called the Graphics Ultra Pro, in both ISA and VL-Bus versions. They're based on ATI's proprietary Mach32 chip, an ultra-fast gate array which supports VRAM and true color at various resolutions, as well as ISA and VL-Bus. Unfortunately, with the Ultra Pro, ATI has paid a price for continuing to deliver high-end proprietary video solutions.

The ATI Ultra Pro has been plagued by driver bugs and rampant incompatibilities with a large number of Windows applications and devices. Even with the latest version of its VL-Bus card, a text file is provided with the Windows driver software reporting the problems that still exist: for instance, the Ultra Pro doesn't work with Creative Labs' Video Blaster, induces program crashes with Adobe Illustrator, may offer printing problems, and so on. The text file, which is titled M32PANEL.TXT, is a must-read for anyone considering buying a Mach32-based card. It should be noted, however, that under our tests and generally working with the card, I experienced no serious problems.

On the 486DX2-66 with Local Bus, the Ultra Pro turns in solid performance, with a 16.0 WinMark and a respectable but unspectacular Speedy rating of 10.80. Although the WinTach scores were only mediocre, this can be expected because Texas Instruments' WinTach is biased towards TI34020 coprocessor-based cards. In addition, running at the settings mentioned earlier, many low-end ISA cards best the Ultra Pro in both text scrolling and CAD application scores. Amazingly however, running the Ultra Pro at 1024 x 768 resolution at 65,536 colors (also known as 16-bit color) dramatically sped up the card's WinTach score, while only slightly slowing WinBench and Speedy scores!

If you enable Windows' TrueType, the Ultra Pro's performance degrades substantially, particularly for text scrolling and refreshing applications—WinMark scores declined to about 11, for example.

These results highlight the questionable nature of benchmark programs in general. It also points out a unique feature of ATI's Ultra Pro: the ability to deliver useful performance at 1024 x 768 with 16-bit color. Application performance in Corel Draw and screen updates in PageMaker were very acceptable in this display mode. In fact, the Ultra Pro stands out strongly for its high-quality hi-res 16-bit color support.

FONTS, FONTS, AND MORE FONTS

ATI's brilliant Crystal Fonts feature, which puts exceptionally fine text fonts on the screen that approximate laser print quality, may affect your screen performance. With both True Type and Crystal Fonts enabled, text scrolling speed is significantly enhanced, and the beauty of the screen fonts is truly spectacular. As usually installed, that is not the case with Adobe Type 1 fonts (which are the ones I favor). But ATI makes a program available for a nominal charge that converts Adobe fonts for use under the Crystal Fonts font rasterizer (Hey ATI! Why not include it in the package?). True Type fonts are automatically supported. Unfortunately, Crystal Fonts screen refreshes are not perfect, but tend to leave screen artifacts and to drop characters from the margin.

Another factor should be taken into account: ATI offers the Ultra Pro card in a variety of RAMDAC and VRAM configurations. (A RAMDAC is an on-board chip used to handle color depths, screen resolutions, and refresh rates.) The review unit examined included 2MB of VRAM (the card's maximum) and ATI's highest-end RAMDAC, the 68875. One potential problem is ATI's use of a memory aperture for placing video drivers at the top of system memory. This effectively prevents you from using more than 16MB of RAM in your PC.

Though ATI's traditionally difficult software utilities and installation may be difficult for some users, they allow a wide range of adjustments and are quite impressive. So is the Ultra Pro's documentation. In the end, based on the substantial number of incompatibilities and variable performance in different applications, it's hard to recommend this card unreservedly. Nonetheless, the hardware is superbly manufactured, with a tremendous number of value-added features, producing an excellent package overall. One of the card's greatest strengths is its flawless support for 65,000 colors at 1024 x 768 resolution. There are a lot of nuances and details in the Ultra Pro package which make it an exceptionally sophisticated product. Users should carefully consider whether the Ultra Pro VLB is worth its premium price for their application. The critical tip for this card: Make sure you get the latest drivers!

HERCULES GRAPHITE ISA

I've been looking forward to evaluating the newest offerings from Hercules—not only because of the company's premium name and its longtime presence in the high-end graphics market, but because Hercules is one of the few companies to commit to a different chip for Windows acceleration—the IIT AGX014. Though it's quite an alphabet soup, the IIT chip is advertised as an extremely high-performance gate array, particularly as used on the Hercules Graphite. Indeed, benchmark performance in some areas is far beyond any ISA card I've seen. The Graphite ISA card posts a blistering 31.55 WinTach score and a 22.1 Speedy score, placing it among the very highest in the ranks. Winbench produced a contradictory result, with a trudging 10.1 WinMark—a relatively low score on a 486DX2-66 system.

Benchmarks are not the whole story, however. Hercules's Windows video software utilities are an excellent group, including Picture Window, a screen-resolution changing program; Adjust, a program to adjust and center your Windows screen (adjustments are saved to a file, which is run on Windows start-up to maintain your screen position); and Speedy, Hercules's sinteresting benchmark program. Hercules also provides a beautiful and simple Windows utility to check the current vertical refresh rate of your monitor. The documentation, though sparse, and incomplete regarding installation, is clear and straightforward. You must know exactly what

Get the Highest Performance at the Lowest Prices

with a wide selection of Brand name Computer Systems and Peripherals !

AIR + IBM + NICE + DASH VLB SYSTEMS

AIR Pentium 586-60MHz / 586-66MHz
w/ 512KB Cache use 72 pin Simms

1.2 & 1.44 + Mouse + 16MB use 72 Pin Simms + Viper VLB 2MB + Quantum 525AT + Tower Case

$3,220 / $3,450

AIR MIS VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	AIR MIS VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	AIR MIS 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,650	$1,810	$1,860

.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB + Maxtor 245MB + IDE VLB + SCSI II + TOSHIBA CDROM

NICE EISA 486-33 VLB W/ 256K CACHE MIDD. TOWER SYSTEM	NICE EISA 486-50 VLB W/ 256K CACHE MIDD. TOWER SYSTEM	NICE EISA486-66 VLB W/256K CACHE MIDD. TOWER SYSTEM
$1,310	$1,460	$1,530

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB 1MB SVGA + Maxtor 340MB + IDE w/ Multi I/O Card

AIR VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,130	$1,290	$1,340

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB SVGA + Quantum 270MB + IDE VLB w/ Multi I/O Card

BAY VLB 486-33 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486-50 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486DX2-66 w/256K CACHE MINI-TOWER SYSTEM
$1,030	$1,170	$1,230

.2 & 1.44 + Mouse + 4MB + Cirrus Logic VLB SVGA + Quantum 270MB + IDE VLB w/ Multi I/O Card

IBM SLC2-66 W/ 64K CACHE MINI TOWER SYSTEM	BAY 386DX-40 W/ 128K CACHE MINI TOWER SYSTEM	BAY 386SX-33 W/0K CACHE MINI TOWER SYSTEM
$890	$690	$620

1.2 & 1.44 + Mouse + 4MB + TRIDENT 1MB SVGA + Maxtor 213MB + IDE w/ Multi I/O Card

Store Hours: Mon - Fri: 9:30AM - 6:30PM • Sat: 10:00AM - 5:00PM

HARD DISKS

40 MB IDE (28ms)	$135
100MB IDE (18ms)	$160
130 MB IDE Maxtor 7131AT	$175
213 MB IDE Maxtor 7213AT	$215
210 MB IDE Conner CP20204 w/ 256k	$215
245 MB IDE Maxtor 7245AT	$220
270 MB IDE Quantum w/128k cache	$240
340 MB IDE Maxtor 7345AT	$270
520 MB IDE HD Quatum (9ms)	$435
540 MB SCSI HD Quatum (9ms)	$495
1.0GB MB SCSI HD Quantum (9ms)	$865
1.8GB MB SCSI HD Quantum (8ms)	$1135

CD ROM / SOUND CARDS

Sony CD 31A W/ interface card	$140
Toshiba XM-3401B SCSI 200ms	$350
NEC Tripple Speed 3XI CD ROM	$500
Panasonic CR-562 DS CD ROM	$190
ProAudio Spectrum 16w/ SCSI	$140
ProAudio Studio 16 w/ SCSI	$170

VESA LOCAL BUS MOTHERBOARDS

AIR 586MI W/ 256 KCACHE MB W/O CPU	$560
NICE EISA 486 VLB w/256K 33/50 MHz	$275
AIR 486 SH VLB ISA w/256K 33/66Mhz	$140
AIR 486 VLB EISA w/256K 33/50Mhz	$340
AIR MIS VLB + SCSI + IDE W/256Kcache	$305
Dash 486 VLB ISA w/256K 33/50Mhz	$135

PRINTERS

Panasonic KX-2180/2123	$160/240
Deskjet 1200C/Postcript	$1375/1975
Deskjet 500/500C/550C	$295/395/585
HP Laserjet 4/4M/4L/4ML	$1380/1865/669/1025

FLOPPY DRIVE/TAPE BACKUP

TEAC 1.2MB 5.25	$46
TEAC 1.44MB 3.5	$38
TEAC Dual Floppy Drive 1.2 & 1.44MB	$115
Colorado Tape Backup 120MB	$145
Colorado Tape Backup 250MB	$175
Archive 250MB Tape Backup Floppy Con.	$160

NETWORK CARD / SOFTWARES

3COM	
3C503-16 Etherlink II 16 bit coax/TP	$170/180
3C509-16 Etherlink III 16 bit coax/TP	$135/140
COMPULAN	
NE 600E 16 bit TP	$75
NE 200E 16 bit Coax	$65
NOVELL CARDS	
NE2000 16 bit Coax	$130
NE2000 16 bit TP	$135
NOVELL SOFTWARE	
Netware 3.12 for 5/10/20 Users	$595/1290/1895
Netware 4.01 for 5/10/20 Users	$820/1820/2630

SCANNERS

ScanJet IIC Color w/ Kit	$1395
ArtiScan Scanner 600/800/1200	$995/1195/1845

SOFTWARES

Microsoft DOS 6.0	$45
Microsoft DOS 6.2	$40
Microsoft Windows 3.1	$50
Microsoft Windows NT	$319

MONITORS

SuperVGA (1024x768,0.39mm)	$205
SuperVGA (1024x768,0.28mm) Arche	$240
SuperVGA (1024X768, Non-int) Arche	$265
NEC 3FGe 15" Flat Screen	$585
NEC 4FGe 15" Flat Screen	$685
NEC 5FGe 17" Flat Screen	$1075
NEC 5FGp 17" Flat Screen	$1380
NEC 6FGp 21" Flat Screen	$2380
Viewsonic 6E 14" 0.28 DP	$298
Viewsonic 15 15" 0.28DP	$489
Viewsonic 17 17" 0.28DP	$1035
Viewsonic 20 20" 0.28DP	$1720
Viewsonic 21 21" 0.26DP	$2050
Mag 15F 15" 0.28DP (PC Editor Choice)	$495
Mag 17F 17" 0.26DP SVGA Monitor	$885
SONY 1430 14" 1024x768 0.25DP	$595
SONY 1730 17" 1024x768 0.25DP	$995
SONY 17SE 1600x1200 0.25DP	$1230
CTX Monitor 14", 15" non-inter 0.28	$280/380

VIDEO CARD -VLB- VIDEO CARDS

Mono Card w/ Printer Port	$13
Trident 512k Card/ Trident 1MB card	$45/65
16Bit 1 MB Tseng-4000 72Hz 32K Color	$75
Cirrus Logic VLB 1MB/2MB	$95/135
Trident VLB Plus1MB/2MB	$85/130
Number 9 GXe Level 11 2MB ISA/VLB	$355/360
Number 9 GXe Level 12 3MB ISA/VLB	$435/440
Fahrenheit VLB Bus1MB/2MB	$165/205
Orchid Fahrenheit VLB VA 1MB/2MB	$175/215
Orchid Celsius VLB 1Mb/2MB	$205/265
Diamond Speedstar Pro 1MB	$110
Diamond Stealth 24 VLB 1MB	$155
Diamond Stealth Pro VLB 1MB/2MB	$265/325
Diamond Viper VLB 2MB Weitek Chipset	$365
Diamond Viper PCI 2MB	$410
AIR Star-2000 VLB Weitek Chipset 2MB	$360
ATI Ultra Pro VLB 2MB	$365
ATI Ultra Pro PC1 2MBRam	$410

FAX/ MODEM

Zoltrix 2400 Internal Modem	$30
Zoltrix 9600/2400 Fax/Modem	$50
Zoltrix 14.4K V.32 bis, V.42 bis I/E	$125/150
US Robotics Sportster 14.4K I/E	$150/175
US Robotics Courier HST Dual Standard	$Call
Intel SatisfaxtionModerm/400e I/E	$365/385
Intel Fax/Moderm 14.4K I/E	$155/185

MISCELLANEOUS

IDE Multi/IO Caching Controler To 64MB	$105
Promise DC-2000 VLB IDE& I/O	$35
Dash VLB IDE & I/O Suport 2.88FDFast	$50
Orchid VLB IDE & I/O Suport 2.88FDFast	$60
DTC 2270VL VLB IDE & I/O Fast	$75
Promise DC-4030VL IDE VLB CACHE	$135
Adaptec 1522B/1522B Kit SCSI	$85/135
Adaptec 1542C/1542C Kit SCSI	$185/240
Adaptec 2742 ESIA SCSI-2 Upto 14 HD	$365
Adaptec 2842 VLB Fast SCSI-2 Kit	$295
AIR Q-Access VLB SCSI-2 With I/O NEW	$135
AIR 32Bit VLB Ethernet Adaptor	$250
Ethernet NE2000 16 Bit Adaptor	$55
AIR 32BIT VLB SCSI-2 w/o I/O	$260
Trantor T130 SCSI Interface w. Kit	$ 50
ULtrastor 24F EISA SCSI	$365
ULtrastor 34F VLB SCSI	$265
BusLogic BT445S VLB SCSI-II	$260
BusLogic BT545K BusMaster SCSI	$235

BAYCOMPUTER,INC.

MasterCard VISA

1252 So. Abel Street, • Milpitas, CA 95035
Tel: (408) 956-8014 • Fax: (408) 956-8013

AT GRAPHICS (408) 988-8822

refresh rates your monitor supports, especially if your screen is not one of the numerous types that Hercules explicitly supports. Hercules's tech support is helpful and usually timely; one call was returned after a quick thirty minutes, and calling several days later on a related matter produced a technician immediately.

GRAPHITE'S PERFORMANCE

Hercules's Graphite enhances performance in very specific areas—application redraws and refreshes. In particular, Corel Draw and PageMaker drawing routines were brutally fast (Corel in particular was startling). Graphite's acceleration virtues, as seen in both benchmarks and applications, are aimed at task-oriented situations within specific applications programs, such as drawing, CAD, and desktop publishing. However, Graphite's performance boost compared with standard VGA cards is startling. Installing it on a friend's 386-40 system yielded an eight-fold increase in screen updates and benchmark scores versus standard VGA. The Graphite ISA is an excellent card for 386 users who want a boost in speed but who may not wish to upgrade their whole machine.

Given its relatively higher price, it's hard to recommend the Hercules Graphite ISA to a beginner. One problem with the price is its 1MB of VRAM, which cannot be expanded. Another is the touchy refresh rate configuration, which is not easy for inexperienced users to handle. Hercules offers both 2MB and VL-Bus versions of the Graphite, but at higher prices. For overall quality, the Hercules Graphite is a can't miss. Corel Draw users will probably love it. Application performance is spectacular, especially for an ISA card. Dollar for dollar, the Graphite outperforms almost everything else out there (except for the Diamond Stealth Pro, reviewed below), and in almost every way rates as an excellent product. Make certain when you buy the Graphite that you have the latest drivers and video BIOS, and everything should be fine.

DIAMOND'S STEALTH PRO

Among the hundreds of Windows accelerator cards to appear over the last several years, Diamond Computer Technologies' Stealth cards have long had a good reputation. The original Diamond Stealth and Speedstar cards were wildly popular in 1992, combining ease of installation with high speed and low cost. Diamond's next generation of cards began appearing early 1993, including the Viper, Diamond Stealth 24, Speedstar 24, and the card we're reviewing here, the Stealth Pro. It's offered in ISA and VESA Local Bus versions; this review examines the VL-Bus card, which generally outperforms its ISA cousin by an average of 20% but is otherwise nearly identical.

Based on the speedy S3 86C928 Windows accelerator chip, the Stealth Pro offers up to 2MB of 60ns dual-port VRAM, a Windows-based screen-resolution utility, special display-list drivers for AutoCAD, and numerous video drivers for DOS applications. With its full complement of VRAM, the card is advertised to deliver true color (16.7 million colors) at 800 x 600 resolution, and 16-bit color (65,535 colors) at 1024 x 768 resolution. (A side note: Don't confuse the Stealth Pro with the previously mentioned Stealth 24, which is based on a different and somewhat less powerful S3 chip.)

The hardware is exceptionally clean in appearance, and installation is generally plug n' play. A jumper must be disabled if you have a peripheral being serviced by IRQ2, but this is seldom the case. It's the only hardware adjustment on the Stealth Pro VLB. Most adjustments are done through software, which is somewhat more problematic. To get the card to work properly with your monitor, you must know your monitor's vertical and horizontal refresh rates, and then run a program called STLMODE to set the card up. STLMODE offers a reasonable list of VGA and multisync monitors for easy configuration, but many users will have to resort to custom configurations to complete the job. Fortunately, the documentation is fairly thorough, and Diamond's tech support was quick to call back and to offer useful tips on this and other issues.

> **The Graphite ISA is an excellent card for 386 users who want a boost in speed but who may not wish to upgrade their whole machine.**

However, unlike many high-end competitors (such as Diamond's own Viper card), the Stealth Pro steadfastly supports both interlaced and non-interlaced monitors with vertical refresh rates ranging from 43Hz to 72Hz, and it can be adjusted to the best possible refresh rate for the monitor to which it's connected. The card also supports a non-interlaced 60Hz refresh rate at 1280 x 1024 resolution. Also, since adjustments are done through software, it's not necessary to set DIP switches on the back of the card to get it to work properly, and the Stealth Pro should work with any reasonably high-quality monitor.

Diamond's Windows driver installation is DOS-based; afterwards, you must run Windows in plain VGA mode, and select the desired resolution and color depth from Diamond's Control Panel-hosted utility program. (You can use the Windows Setup program to do the same thing.) For most applications, the Windows drivers are above average in quality; all resolutions delivered clear, undistorted screens in 8-bit color mode with both small font and large font versions. Surprisingly, though the package advertises 800 x 600 true-color capabilities, no drivers for that mode were included.

I also ran applications with 16-bit color depth, and discovered some problems. Screen distortion became apparent at 1024 x 768 resolution with 65,000 colors, displaying overlapping scan lines at the top of the screen and occasional screen jitter when moving application windows. Using STLMODE's Custom setting alleviated, but did not eliminate, this problem. (Warning: In high-color and true-color modes, icons in Program Manager groups may be randomly replaced by black squares, and a spurious Out Of Memory message may appear. The only workaround for this problem is to limit the number of icons in any program group to fifteen or less. It is not a problem with the video card, but a problem with Windows and the way it handles system resources.)

How about performance? It is stellar. With our test system, the VL-Bus Stealth Pro moved through our selection of benchmark programs with consistently high scores, outperforming more expensive competitors such as the ATI Ultra Pro VLB by an average of 25%. As with the ATI Ultra Pro, it's feasible to run the Stealth Pro in 16-bit color mode at 1024 x 768 without suffering a severe performance hit: redraws in Corel Draw and PageMaker were very quick, and text scrolling was still crisp and speedy. Nonetheless, if possible, users should test before they buy, and make sure they have the latest video ROMs and driver software. In all 8-bit color modes, the card performed speedily and flawlessly. Benchmark numbers, at best, are only a trend indicator. The Stealth backs its numbers up with excellent application performance.

Diamond Computer Technologies' Stealth Pro VLB is but one entry in the exploding Windows accelerator market. Despite this, it combines good quality with outstanding performance to emerge as a winner by any standard. It's an excellent price/performance value, a fine component for any 486 system, and it receives my Best Product for this review. ■

SIDEBAR:

A Note On Video Benchmarks

WinBench 3.11: Released by ZiffDavis Labs, WinBench 3.11 is the first version of the program that has been licensed for use by reviewers outside the ZiffDavis ambit. It exercises ten different Windows graphics operations including line drawing, pattern fills, text scrolling, and bitmap drawing, and creates a weighted composite score from the ten results. Though it's suffered some controversy lately, it is still a standard and worth including.

WinTach 1.2: Released by Texas Instruments, WinTach exercises four hypothetical applications tests: word processing, CAD drawing, spreadsheet, and painting. It's fun to watch. Though the program is slanted towards TI graphics chip-based boards, it doesn't hurt to use it as long as the tested products are roughly in the same category.

Speedy 1.1: Hercules's offering in the benchmark derby, Speedy places up to nine different graphics functions on the screen, each in its own multitasking window, and tries to make the video card break into a sweat during the test. After a few minutes, Speedy yields an average score.

All three benchmarks were run five times in succession for each card, and the averages were taken:

	WinBench 3.11	WinTach 1.2	Speedy 1.1
ATI Ultra Pro VL-Bus	16.0	22.8	10.8
Diamond Stealth Pro	20.8	30.4	22.75
Hercules Graphite ISA	10.1	31.55	22.10

Continued from page 306

Charles Wyke-Smith, Printz Electronic Design:

"Mostly we use the Quadra 840 AV when we're doing QuickTime. With the DSP chip, it just blazes—it's the fastest thing we can lay our hands on. Now we can do full-screen QuickTime, endlessly. We can just play it until our disk drive space runs out."

Monitor utility lets you view incoming video from a VCR or camcorder, and capture single frames.

I was able to use the full-screen option and find it of comfortably acceptable quality. Picture and sound were perfectly smooth and readable. From VideoFusion, there is Fusion Recorder, for recording QuickTime movies at different screen sizes and resolutions, and Quick FLIX, for easy cut-and-paste QuickTime editing. When you're ready for the next big step in advanced QuickTime artistry, you may go outside for Adobe Premiere, or the VideoFusion application which offers a powerful base for fine-editing and an extensive range of special effects and color balancing, including warping and morphing.

Once able to watch video on the same screen I use for everything else, it would seem awkward to have to go back to a separate TV to watch a computer-related tape. These days, many applications like Virtus VR, Playmation, and ElasticReality, come with VHS tapes that provide demonstrations and tutorials. Instructional tapes, like the series on Macromedia Director from Printz Electronic Design, should also be watched where you work. You will need enough RAM memory (16MB and above) to have applications like Director or Adobe Photoshop open at the same time as Video Monitor or Fusion Recorder, but when you do, all of it comes together, and it's as easy "As Seen on TV." ■

Real World 3D Studio

Release 3 Presents Thoughtful, Practical improvements To An Already Powerful Animation Software Package For The PC

BY PAMELA MASON

Creativity, innovation, invention—the results of combining add-on products with Autodesk 3D Studio.

By itself, Autodesk 3D Studio Release 3 is a powerful animation and rendering package for the PC; but when combined with some of the external products available it can be tailored to meet almost any need. Some of the areas where this union can be seen are in virtual reality applications, forensic animation, industrial design, 3-D visualization, and special effects.

CYBERSPACE-THE FINAL FRONTIER

"We may begin to see reality differently simply because the computer produces knowledge differently from the traditional analytic instruments. It provides a different angle on reality."

—Heinz Pagels, *The Dreams of Reason*, 1988

The ability to create virtual environments on the PC, complete with helmets and datagloves, has arrived. Autodesk was the first company to ship a PC virtual reality software product—the Cyberspace Developer's Kit. Conceived in 1988 in a workspace at Autodesk known as "cyberia,",CDK has since grown into a complete toolset for VR development. Programmers can create geometry or models in 3D Studio and AutoCAD, and combine them with CDK's C++ libraries and their own custom code to design and create any kind of virtual environment they can envision.

CDK has been used to create applications such as walk-throughs of barrier-free designs for the handicapped, and in process-control in manufacturing. Autodesk sees this product as finding many uses in the fields of education and training, and architecture and medicine.

Sense 8's World ToolKit is another PC virtual reality development software library of C routines. After creating a virtual world in 3D Studio with .3DS files (or in another modeling package that outputs .dxf format files), World Toolkit can "read in" and use those files. You could, for example, simulate the effects of two molecules docking, or grab one using your wired glove and dock it yourself! Recently, the astronauts who repaired the Hubble telescope practiced for the real event in a virtual reality environment at NASA's Houston Space Center. They wore helmets to view the image of the space craft and had sensor gloves to sense how the repair work would

continued on page 336

Copyright © 1994 by Pamela Mason. All rights reserved. *Pamela Mason has worked at Hewlett-Packard for ten years as a CAD drafter and technical writer, is a consultant to author Robin Williams, and is currently developing animation and multimedia applications.*

RESOURCES:

3D Studio and Cyberspace Developer's Kit
Autodesk, Inc.
2320 Marinship Way
Sausalito, CA 94965
(415)491-8853

World Toolkit
Sense 8
4000 Bridgeway, Ste. 101
Sausalito, CA 94965
(415)289-5293

Maxus Systems International
New York, NY
(212)481-3688

Tom Rzonca
Rzonca Multimedia
3447 Paisley Cir.
Orlando, FL 32817
(407)679-1415

Alex Jason
Anite Group
PO Box 375
Pinole, CA 94564
(510)724-1003

Whether your office has one computer or one hundred....

We keep you working

AUTHORIZED TECHNICAL SERVICES has the experience *and* the expertise to handle your equipment service needs. Whether you're running one small office with one micro computer, or a statewide network of offices with a complex inventory of computers, video display terminals, printers and data communications devices—you simply cannot afford "down time". Call **ATS** today to find out just how easy it is to stay productive

---

ATS
AUTHORIZED TECHNICAL SERVICES
1-800-451-4057

HERE'S A PARTIAL LIST OF EQUIPMENT WE SERVICE:
MICROCOMPUTERS: Dell, Epson, Advance Logic (ALR), AT&T, Everex, Leading Edge, AST Research, Compaq, IBM. **LOCAL AREA NETWORKS:** 3Com, Novell. **STORAGE DEVICES:** IOmega (Bernoulli). **DOT MATRIX PRINTERS:** Alps, Datasouth Epson, NEC, Panasonic, Citizen, Texas Instruments, C. Itoh, Digital Equipment (DEC), IBM, Okidata, Printek, Toshiba. **PLOTTERS:** Hewlett-Packard, IBM. **THERMAL PRINTERS:** IBM, Texas Instruments, Panasonic. **LINE PRINTERS:** Data Products, Printronix. **LETTER QUALITY PRINTERS:** C. Itoh, Diablo, NEC Spinwriters. **LASER PRINTERS:** Canon, Epson, IBM, AST, TI, Hewlett-Packard. **VIDEO DISPLAY TERMINALS:** Digital Equipment (DEC), Link, Qume, Tab, Televideo, Wyse. **DATA COMMUNICATIONS:** Hayes.

ATS SERVICE CENTERS:

Los Angeles	(310) 839-0020
Orange County	(714) 937-0332
Oakland	(510) 638-4449
Sacramento	(916) 923-2944
San Jose	(408) 970-9860

Classifieds

Accessories

Accessories

AMERICA'S ADVANCED ACCESSORIES INCORPORATED
AAA DISKETTES

Premium FORMATTED *(100% Error Free)*

	Qty 500	Qty 50
3.5" DS/HD	35¢	36¢
3.5" DS/DD	24¢	25¢
5¼" DS/HD	22¢	23¢

VISA At AAA Quality is Job #1

1-800-214-4444

Car phone hand-held with attachments and battery for the price of a battery $99. (408) 395-2622.

Bar Coding

SAVE TIME Using our Bar Code inventory systems for greater profitability. We propose solutions. The recession is over. Time to kick ass: (702) 885-9125.

Bar Coding

▶ BARCODE SOLUTIONS ◀

Increase productivity and efficiency. Call **1-800-660-7781** for information on Windows and DOS application software, inventory control, work-in-process, barcode readers, scanners, printers and accessories.

vidya data systems • ph# 415.661.7780 fax# 415.661.7782

Bulletin Boards

PACIFIC EXCHANGE BBS 408-946-8561. Full Featured BBS with 12 Incoming Data Lines, 50,000 IBM/Window files, 10,000 Adult files, USA-Today online news, Games, Grafittie, Classifieds and more.

Bulletin Boards

FIRST ONLINE. Over 30,000 files. 5.2 Gig! PC-SIG Library. Huge adult conference. All lines USR 1200-16,800 baud. REDWOOD CITY: (415)598-0398 SAN FRANCISCO: (415)992-3780 ORINDA: (510)254-5455 SUNOL: (510)862-2200 SAN JOSE: (408)247-1717.

Bulletin Boards

Bulletin Boards

LOG – ON!
***VIEW* CAREER OPPORTUNITIES**
***& RESPOND* ON-LINE**
Directly to the Employers:
(415) 917-2125 14,400 BPS
(415) 917-2129 2400 BPS
Internet Access: Career. Com
Modem Settings: 8,1, N
Emulations: ANSI or VT100

Career Connections™

FREE WINDOWS FILES, Windows OnLine (510) 736-8343 bbs. Get those hard to find public domain Win3 files. Call from your home or office, by modem. Assist your company with their networking of Windows. Developers, upload your demos and shareware for distribution. WOL provides 50 new Win3/DOS files every day & we currently have over 20,000+ Win3 files and 50,000+ total files. WOL has over 650 message and support Conferences. Publisher of the acclaimed WinOnLine Review, and the WOLR Shareware Edition, WOL staff writers provide reviews of new Win3 software and hardware - US Robotics Dual Standard modems (14,400 BPS) on all 17 phone lines. 13 gigabytes. Visa and Mastercard accepted. Editor and Publisher, Frank Mahaney.

Nitelog BBS (408) 655-1096. Email from Internet, Rime and !Link. Files for: DOS, Windows, OS/2, Win NT, Unix and Adult. 24 lines to setve you. (408) 655-8294 for 14.4K connects.

The GIFt Shop (510) 689-4686. Over 10 Gigabytes. The World's BeST Images Originate Right Here. Reknown GIFs World Wide! Call for FREE samples. No per min/hourly fees. Extremely reasonable rates. Intant Access available with VISA, MasterCard or Discover.

LIBERTY BBS modem 800-474-1818. Local access phone numbers from 9 Calif. area codes. Internet E-Mail & Usenet Newsgroups. Linked nationwide for chat 6pm-midnight every evening! Free time on first & every call!

BAYLINE BBS! 510-886-9401. 8 lines at 14,400, 24 hours, African American Issues, Internet Mail/Newsgroups, Business Advertising, Ripterm, Straight & Gay Personals, Adult files, FREE to first 100 new users. Sysop: A. Mitchell.

Cabling

LAN cabling specialist. Business telephone systems. New/refurbished. Sales, service, installation. We move systems. Reasonable rates. (408) 246-1861.

Cartridge Refill

REMANUFACTURED TONER CARTRIDGES

AS LOW AS
$34.50
INK JET CARTRIDEGES REFILLED
RIBBONS RE-INKED
FREE LOCAL PICKUP & DELIVERY → *THREE OR MORE*
1-800-484-9896-1055
LOCAL (408) 779-6940

IBM, HP, EPSON, APPLE
CANON, OKIDATA, SHARP
NEC, HITACHI, KYOCERA
TOSHIBA, RICOH, AND
MANY MORE.

100% GARANTEE

Help the environment and save money! 100% guaranteed Toner Cartridges for HP, Canon, NEC, Panasonic, Apple, Brother, IBM, Wong, etc. and printers services. LASER CONCEPTS 1-800-675-9501 or 510-674-1501.

Laser Ace. Toner Cartridge recharge for Laser Printers and Canon PC copiers. $34-$39. (408) 263-4608.

LASER PRINTER & COPIER SUPPLIES CALL LCP at (800) 404-5028. WE HAVE QUALITY REMANUFACTURED AND NEW TONER CARTRIDGES FOR L/PRINTERS & COPIERS, OPC for Oki-400, Epson, Panasonic KX4410/4420/4450 avl. WILL BEAT ANY ADVERTISED PRICE! REPAIRS/SVC PRINTERS & COPIERS, BUY USED CARTRIDGES! HP, CANON, IBM, PANASONIC, OKIDATA, RICOH, NEC, APPLE. 100% GUARANTEED, FREE PICK-UP & DELIVERY.

Cartridge Refill

Cartridges Recharged
Laser Printers & Personal Copiers
call for price quote
Super Drum extra
Free Pick-Up & Delivery
Service & Repair available * 100% warranty
(510) 832-2828 * FAX (510) 832 6789

CD - ROM

Adults CD ROM. All ROM disks are menu driven and BBS ready. Titles available PC-pix volumes I and 2, 600+ mega bytes, $159. Erotic Encounters, worlds largest adult CD ROM $139. Storm volumes I, 2 or 3 $159/each. Ecstacy Hot Picks $179. Cal Ad Software, P.O. Box 50204, Long Beach, CA 90815.

Unix on CD-ROM. Latest SLA, SLS, 386 BSD, slackware with sources. $39.95. (408) 727-3883.

CD-ROM Mastering
Tadpole Technology
Production and Consulting for
•Multimedia •Archiving
Call for full details
510-528-FROG

HOW TO PLACE YOUR CLASSIFIED AD IN MICROTIMES:

MINI DISPLAYS: 1 column inch=1 5/16"x7/8" wide. $49 per col/inch, camera ready art, or $49 + $20 for 1X typesetting/production fee.

BUSINESS ADS: Rates are $15 for 15 words or less. 50¢ for each additional word. Your phone number counts as one word.

CATEGORIES: See index to choose the classification that best describes your product or service.

FREE ADS: Private individuals may have one free classified ad one time of 15 words or less under Hardware, Software, or Accessories only. Mail coupon by the noon deadline for that issue, no phone orders for free ads.

No refunds will be given after copy is received. Credit may be given under certain circumstances

Mail, deliver or fax this coupon along with payment by noon deadline for that issue.

TO RESERVE SPACE
Phone Orders
(510) 934-3700
Fax Orders **(510) 934-7351**
with Visa or MasterCard only.

CLASSIFIEDS CATEGORIES

- ☐ HARDWARE
  - ☐ For Sale
  - ☐ Wanted
- ☐ SOFTWARE
  - ☐ For Sale
  - ☐ Wanted
- ☐ ACCESSORIES
- ☐ BULLETIN BOARDS
- ☐ SERVICES
- ☐ BAR CODES
- ☐ CARTRIDGE REFILL
- ☐ DESKTOP PUBLISHING
- ☐ DISK CONVERSION
- ☐ REPAIRS
- ☐ VOICE MAIL
- ☐ MISCELLANEOUS
  - ☐ Computer Rentals
  - ☐ Office Rentals

CAREER MARKETPLACE CATEGORIES

- ☐ Employment Information
- ☐ Jobs Offered

CONSULTANTS NETWORK CATEGORIES

- ☐ Accounting
- ☐ Business Opportunities
- ☐ Engineering
- ☐ Finance
- ☐ General
- ☐ Hardware
- ☐ LAN
- ☐ Programmers
- ☐ Software
- ☐ Technical Writing
- ☐ Training

____
____
____
____
____
____

Cost of ad ________ **X number of issues to run** ________ **= Amt. enclosed** ________

☐ **Classified** ☐ **Career Marketplace** ☐ **Consultants Network**

☐ Check/MO ☐ Visa ☐ MasterCard Credit Card #________ Exp. Date________

Name ________________ Amt.________

Address ________________

City ________ State ________ Zip ________

Phone (____) ________________

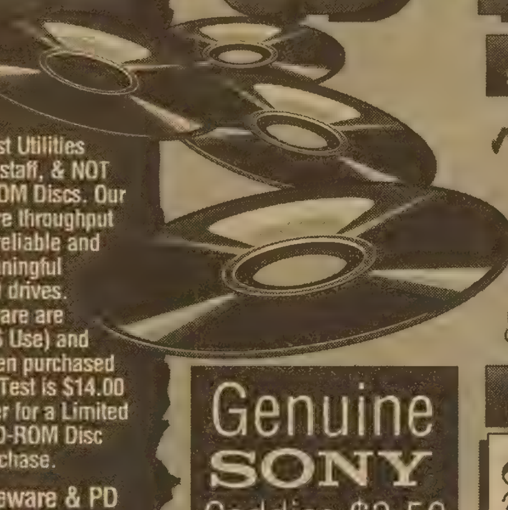
SEND TO: MicroTimes Classifieds, 3470 Buskirk Ave., Pleasant Hill, CA 94523

DEADLINE FOR INSERTION IN THE APRIL 4, 1994 ISSUE IS NOON ON WEDNESDAY, MARCH 16, 1994

Classifieds

CD - ROM

FREE CD-ROM DISC!



Mega Demo & Test contains 350 Megs of PC Shareware & PD software. Including Special CD-ROM Benchmark and Test Utilities written by our programming staff, & NOT available on any other CD-ROM Discs. Our Special Test Utilities measure throughput as well as access time in a reliable and consistent manner for a meaningful real-world benchmark for CD drives. The Disc and Interface Software are fully functional (Even for BBS Use) and not crippled in any way. When purchased separately Mega Demo and Test is $14.00 plus $6.00 for S&H However for a Limited Time This Demo and Test CD-ROM Disc is Free with any CD Disc purchase.

These are the Only Shareware & PD CD-ROM Discs with both a DOS, and a Windows 3.1 "Hypertext" Retrieval Interface. Plus All CD Discs are BBS Ready, and Include files.bbs plus our BBS Door with "Remote User" Mouseable Pull-Down Menu Interface.

PROFIT PRESS, 824 E. Ft. Lowell Rd.,
Tucson, AZ 85719 - Info (602) 770-0000
FAX (602) 770-0005 - BBS (602) 770-0008

The prices listed above do not include shipping and handling. Special shipping and shipping to foreign countries is available.

MasterCard VISA

S.R.P. $79.00 ea. **New! JUST RELEASED! New!** S.R.P. $79.00 ea.

Mega CD-ROM³™
PC Shareware Spectacular

650 Megs 1 Plus Gigs Uncompressed! Our Newest in The Mega CD-ROM Series. Contains Utilities of All Types, Word Processors, Data Base, Communications, Graphics Tools, CAD, Business, Education, Programming, Hobby, Games, Sports, Sound Files, 256 Color GIF's, FLI's, Bibles, Fonts, Windows Programs, BBS, Plus Much More!

Mega Windows²™
Windows Shareware / Public Domain

Our Newest in the Mega Windows Series. This Disc Contains Windows Utilities of All Types, Windows Application Programs of All Types. Windows Communications Programs, Windows Games, Windows Fonts, Windows 256 Color Graphics .BMP, Windows Sound Files .WAV, Windows Drivers and Icons. plus OS/2 Shareware, and Much Much More!

Mega Games¹™
PC Games, Graphics & Sounds

Contains PC Games from Shareware Companies such as Apogee, and Epic, plus many many others. Game Bytes Electronic Magazine, with file categories that include Arcade, Adventure, Puzzles, Mind & Strategy, War Games, Card Games, RPG Games, Plus 256 Color GIF's, FLI's of all types & Includes Sound Files, .MOD, .ROL, .WAV & .VOC

Publisher Direct Price $29.00 ea. Or All 3 New Mega Fantastic MEGA CD-ROM Discs for Only! **$59.00**

Genuine
SONY
Caddies $3.50
each with
ANY $49.00
CD-ROM
Disc Purchase
Limit of 10
Per Customer

ForBidden Subjects¹™

This Disc Contains Hacking, Phreaking, Tone Box Information, Anarchy, Subculture, Magic, Internet & Computer Security Secrets, Bomb Plans, FBI & Police Net Files, Virus Code, Sick & Twisted Graphics, UFO, Occult, Even Ham Radio Files, Plus Much Much Nore! Everything Fun and Interesting That Absolutely No One Wants You to Know About! Includes MegaSearch for those Fasonating Late Night Text Searches. & (If You Dare) for BBS there's files.bbs Plus MegaDoor and MegaTerminal.

Our Exclusive! Special Price
$39.00
S.R.P. $79.00 ea.

fao Gold™

"The Best of the Best" $39.00 each The Full Set All 3 Only!
$99.00 SET

Volumes 1, 2, & 3
"Best of the Best"
For Adults Only "GOLD"
"Wife Proof Labels"
Each Over 600 MegaBytes
Many Not On FAO 123 - 256 Color SVGA Gif's with NO BBS Logos! Plus Animated FLI's, GL's, & DL's, Includes Games, and Fantasy Text Files. S.R.P. $79.00 each.

fao™

3 Disc Set 1,892 Megs contains over 16,000 Files! All 3 Only!
$69.00 SET

Volumes 1, 2, & 3
For Adults Only
"Wife Proof Labels"
256 Color SVGA GIF's,
Plus Animated FLI's, GL's & DL's
Includes Games, & Fantasy Text Files.
3 Disc Set 1,892 Megs - 16,000+ Files!
S.R.P. for this Set of 3 Discs $199.00.

ORDERS ONLY! CALL TOLL FREE
1-800-843-7990

CD-ROM DRIVES

Toshiba, Texel, NEC
SCSI Interface cards
Trantor and Media Vision
CD-ROM Titles, MAC & DOS
Caddies • Accessories
COMPUTERS AT LARGE
Saratoga, CA
Dedicated to CD ROM Technology
Please Call for Our Price List
800-642-4194 408-255-1081
408-255-2388 Fax

CUSTOM CD ROMS

- ★ COMPLETE DUPLICATION & PRODUCTION SERVICE
- ★ HELP YOU DEVELOP MULTIMEDIA APPLICATIONS
- ★ INPUT YOUR DATA, DOCUMENTS, PRODUCTS & IDEAS ON CD ROMS.

CALL **MIS** AT
310★867★1790

Computer Rentals

For rent or lease: IBM / PC Clone computers. (510) 644-9368.

Computer Insurance

SAFEWARE
INSURES YOUR COMPUTERS!

Full replacement of hardware, media, purchased software. From $49 yearly. Covers fire, theft, power surges, other accidents. Blanket coverage; no list of equipment needed. Low $50 deductible. Call for information or immediate coverage.

☎ **1-800-848-3469**
Local (614) 262-0559

SAFEWARE: The Insurance Agency Inc.
2929 N. High Street, PO Box 02211
Columbus, OH 43202

Data Conversion

We take your computer files from any tape or disk to any tape or disk for any computer.
Also... scanning, list rentals, and mailing label printouts.

Data Conversion for LESS
CEO LISTS
415/924-1612

COMPUTER DISK & TAPE CONVERSIONS
Micros • Minis • Mainframes
Floppy 1/2" & Cartridge Formats
DATA CONVERSION SERVICES
(415) 456-7000

Hardware

Backup power supply $125, new, 225w. Protects against spikes, surges, blackouts, (20-30min.), and equipment damanging brownouts. (415)456-7000.

Hardware

WHOLESALE PRICES. 50MB SCSI HD $110. Battery pack for Powerbook (140-180C) #1 for Mac $199. Pocket conditioner for Mac $48. Powerbook Duo battery charger for Mac $140. Powerbook (140-180C) full cycle battery charger $59.95. Soundcart 16-bit w/ over $800 worth of software $145. Scanner hand-held with Windows software $105. PCI motherboard CALL. Monitor mover $55. Surge protector $19. TI printer #1 PC magazine 5 ppm Microwriter $555. Stand alone voice mail 2 lines, 8 boxes $345 (can notify you anywhere). Premiera color printer thermal wax $799 for Mac or PC. Conner 40MB SCSI 2.5" $99 for Apple. Epson 40MB SCSI $99. Fujitsu 90MB $149. HP 430MB SCSI $590. HP 700MB SCSI $665. HP 1.2 SCSI $835. We have over 1,000 Hard drives ready to go. Call(408)997-8380.

MacII, 8/40 w/dual page 20" monitor, modem, Hi-Res (415 dpi) PostScript printer, software $1950 (OBO). (408) 727-8338.

Hardware

HIGH END PRODUCTS

486-33/66 .... $790/990
Incl. 200MB HD, SVGA Monitor, Mini-Tower Case, 1.2/1.44 Floppy
486-33 Notebook Computer $1245
4MB RAM, 120MB HD, Fax Modem, Incl. Case + 2 Batteries
Ikegami Monitor #1 for Mac, PC 17"/20" $1999/2450
(over $1400 off retail)
Hard Drives - all kinds up to 50GB or more .... CALL
Software: medical, dental, law .... CALL
Networking, remote access (Multitech - Microdyne), Novell, LAN Access - davinci, Acsys
Document feeder scanner up to 60 ppm .... CALL
Tamarack Scanner Flatbed 600/800/1200 .... CALL
Point of Sale (Cash Register, bar code S/W for any business) .... CALL
Call for specials - see our ad under Wholesale Prices
We do repair, services, exporting
408-997-8380
Computer Direct Wholesale

UNITEK Hard Disk Repair. CONNER, SEAGATE, MAXTOR, PRIAM 40-59 $2.50/MB, 60-79 $2.25/MB, 80-99 $2.00/MB, 100-149 $1.75/MB, 150-199 $1.50/MB, 200-299 $1.25/MB, 300-399 $1.05/MB, 400-599 $.95/MB. Call Now! (408)395-0382.

Cash for APPLE IIe/IIc/IIgs, ImageWriters, Mac's, dead or alive. 1-800-800-0525. Computers for Schools.

Upgrade ROM for 3280 to 3280AS DTC SCSI controller $50. (510) 652-9856

Hardware

EXPRESS MECHANICAL - New systems 386DX-40 (125 mg) SVGA $849. 486DX-33 $1268. 486DX-66 $1459. Call (510) 317-1922, fax (510) 317-8570. BBS (510) 317-9685.

HARD DRIVE: Unused 2.5" Western Digital HD IDE 170MB $299. External 5.25 floppy drive with power supply with cable $140. (408) 997-8380.

Sell your computer equipment for FREE. Printed and on-line. World's largest classified ad database. Call (800) 8 FREE AD.

Classifieds

Hardware

Complete 386-33 AST system w/16 MB RAM, H drives, SVGA. Best offer. Call John (415) 804-7265.

HARD DRIVE, 40MB with controller and I/O card $80. (408) 383-4074 day or (408) 748-9149 evening.

Monitor: Sony GDM 1601 $550. (510) 490-2608.

Toshiba T3100SX16 Laptop 5MB, 80MB HD, VGA Plasma, new with Windows 3.1, $1000. (408) 376-0987.

Cases. Mini Tower with power supply, 360K drives $45 each. Evenings (415) 851-2299.

HP Deskjet 550C, almost new $500/BO. Page Oscar Lugo at (408) 447-9174.

Hardware

US ROBOTICS fax/mdm dual standard 16.8/V32BIS int/ext $185/235. 4MBX9-60NS $155. SNES Console copier $330. (510) 581-6940 Alvin.

HARDWARE FOR SALE: HP-48GX Scientific Calculator for only $180 or best offer. 128K version. Two months old. Call after 6pm (408) 774-1512.

Toshiba laptop, T1100+, antique, dual floppy, mono LCD, internal 1200 baud, $250/OBO. Ken (510) 297-4310.

Compaq portable III Lunchbox 286-12, 1.2FD, 20MB HD, full keyboard $195. (510) 653-4592.

Mac Scanner - Microtek drum B&W 300dpi $100. (415) 457-4419.

Lowest price in MEMORY

C.G.I. TECHNOLOGY

–We **Buy & Sell** IBM, IBM compatible, Mac, CPU, memory, Hard Disk, 386 & 486 Motherboards

–We Buy non-working Simms & Sipps

Special new 420MB SCSI 3.5"	$350
8/200 Compaq Color Notebook	$1250
17"SVGA	$875
486/66	$1200/$1800

Tel: (408) 973-9840 Fax: (408) 973-8710

WE BUY MEMORY

SIMM - SIPP - DIP - ZIP - SOJ

TOSHIBA
Samsung
NEC
Micron
IBM

We'll BUY/TRADE all types

>NEW >OLD >UNSURE

Ask about our TRADE-IN program

Call > (714) 540-5137

Ask for Andy FAX List etc. (714) 540-5139

Hardware

Adeptech 1542B SCSI controller, Maxtor 8760 760MB SCSI drive $500. Call Kirk (415) 921-3444.

TV Tuner card, upgrades your VGA monitor to TV set, operates under DOS $75. (510) 623-8436.

Alps 24-pin dot matrix printer, unused. Boxed. Letter quality, wide carriage. Was $799, sell $345. (415) 329-1390.

Okidata 391 plus, new in box, unopened. $450. (510) 652-7328 evenings.

XTerminal 19" mono X-11 R-3 proms $325. 15" $250. (510) 283-6264.

CPU: Intel 486DX33, used only one year, selling due to DX2 upgrade. $110. (408) 436-1248.

External SCSI case for two 3.5" and 5.25" drives, come with 20MB $80. Randy (510) 623-7056.

NEC P9XL 24 pin printer; excellent condition; $300; Bill (408) 737-3371.

MAKE-IT 486 upgrades for your 286; limited supply. Joe (510) 930-9075 leave message or fax please.

286-20 40MB/1MB RAM/1.2M FD, EGA color monitor, I/O's, keyboard. Excellent condition. $275/OBO. (408) 252-9012.

Flashdisk 5MB for HP Palmtop $300/trade for SIMM RAM. Larry 736-2537 after 6pm.

20" TAXAM Super VGA monitor 1280x1024 NI $800. Call (510) 623-8436.

Hardware

Panasonic notebook, IBM compatible, floppy, backlit display, 640K + 1 Meg RAM card 6.4 pounds (415) 982-5053 DANNY.

386-20 system, 1MB/85MB HD/1.2MB FD. Hi Res VGA color monitor (0.28mm). 101KB, DOS 6.0, Windows 3.1. Complete and good condition. $375. (415) 390-4426.

Sale, repair, upgrade, setup: LANs, IBM compatibles (XT/AT/386/486/586). All systems & parts are new and warranty. Best price. (510) 732-7611.

AST Premium 286, 4MB/60MB, math, tape, VGA monitor $300. HP 7475 plotter, accessories $300. (408) 735-7316.

Hardware

IBM PS2 laptop active color display, best screen on the market. 80M hard drive $1900. (408) 395-2622.

Cardinal warpspeed weitek P-9000 powered vesa graphics board 1 meg, superfast $250/OBO. (510) 256-6536.

Hardware Wanted

Mac or 386 needed for alternative healthcare non-profit. Tax-deductible. Contact Terry, HERMES (408) 384-4220.

WANTED: Clone 286 motherboard, 16Mhz, w/ CPU, AMI or Phoenix Bios. (510) 653-6062.

Brand Name Computer Liquidation

Complete System With Warranty!!!

286 1 RAM, 20 HDD, 1 FD, Mono $195

386SX 2 RAM, 40 HDD, 1 FD, color VGA $400

¡386DX 2 RAM, 40 HDD, 1 FD, color VGA $455

¡486DX 4 RAM, 245 HDD, 2 FD, color SVGA $970

Color VGA monitor $130, Keyboard $15, 676MB SCSI $470

Adaptec 1742A EISA SCSI II $120.

FOR-U COMPUTER INC.

Other configurations are available, (408) 437-8718

Hardware Wanted

COMPUTERS WANTED FOR EXPORT

Looking for dealers interested to export COMPAQ COMPUTERS, INTEL CPUS and SIMMS to FAR EAST.

Call (408) 894-0535 after 6pm.

WANTED: Toshiba T1000 laptop computers in working condition. Call John at (408) 496-6683.

Accepting hardware/software donations for innercity Catholic church/school, tax deductible. Call (916) 422-8380 (Sacramento).

Personals

Sexual Dates Bay Area Men/Women/Gay/Lesbian/Bi-sex Females. 1-900-844-2121 ($1.95 per minute).

Hardware

Disk·Drive·Depot

MONSTER SCSI-II DRIVE SALE!!

HITACHI 1.34GB 13ms

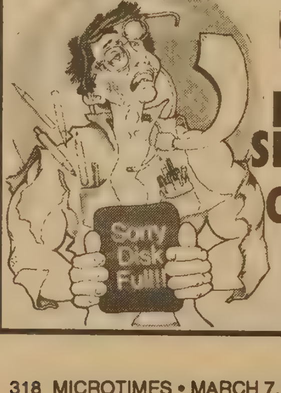
$995

QUANTUM 1.8GB 10ms

$1395

MAXTOR MXT-1240S 1.2GB 8ms

$949


Sorry Disk Full!!

OUT OF DISK SPACE?

COME SEE US!

NETWORK CARDS!

NE2100 BUS MASTER	$49
NE1500 10 BASE T ETHERNET	$59
16/4 TOKEN RING	$119
VLB BUS MASTER ETHERNET	$195
GENERIC ETHERNET	10 for $149

(408)738-3895

CSC AK47 VESA FAST SCSI-II CONTROLLER $149!	WANGTEK 2.0GB DAT DRIVE $495!

YOUR ONE STOP DISCOUNT DRIVE & CD-ROM SOURCE

OPEN M-F 10:30-6:30, SAT 11-6

500 LAWRENCE EXPRESSWAY

PSA

PARSIA TRADING CO.

3375 Stevens Creek Blvd.
San Jose, California 95117
Tel. (408) 249-8197 - Fax (408) 249-8198
TOLL FREE NUMBER 1-800-347-6356

PARSIA TRADING CO. IS A SOLE DISTRIBUTOR FOR A MAJOR EUROPEAN RIBBON MANUFACTURER IN "U.S.A." WE MANUFACTURE ALL THE RIBBONS FOR PRINTERS, TYPEWRITERS, ETC...

"EXCELLENT PRICES, SUPER QUALITY"

EXPORTING IS ALSO AVAILABLE

486 with O/CPU with 256K cache, case, power supply, 1.44 floppy, 101 keyboard, mouse, mouse pad "MADE IN U.S.A."	$279.00
386DX33 with Math coprocessor, case, power supply, 1.44 floppy, mouse, mouse pad, 101 keyboard "MADE IN U.S.A."	$279.00
I/O Cart	$8.90
Dell 101 Keyboard	$19.00
Ethernet Cart NE2000	$43.00

"MADE IN U.S.A."

We carry much more....

DO NOT FOREGET — YOU SAVE GREAT DEAL ON PRINTER RIBBONS, ESPECIALLY IF YOU PURCHASE IN QUANTITY.

Classifieds

Internet Services

Bay Area Internet Literacy (BAIL) presents:
INTERNET ACCESS
How to set up a 24-hour
Internet Site
Sat., Mar. 12, 1pm - 5pm
252 9th Street, SF
$50/pre-reg, $60/door
Reservations & Info:
(415) 626-9196

Internet for Business
Wed, March 16th
1pm - 4pm

Climate Theatre,
252 9th St., SF
$60 Pre-reg, $75 /door.
Space is LIMITED.
Reservations & Info:
(415) 469-8271

Repairs

ON-SITE PC REPAIR. No travel charge, in San Jose. HATCH CONCEPTS (408) 226-2625.

PC Repair IBM, PC's or compatible. Upgrade, house calls, free diagnosis. Guaranteed lowest price. Networking. Computer training (classes or videos) for all software and networking. Quality service, references available. On-site repair in Bay Area. Fast turnaround. Call(408) 997-6944.

Optical Sanning

Optical Sanning

Optical Sanning

Why enter data by hand?
...When you can *automatically* capture it!

Types of Data Capture

HANDPRINT RECOGNITION

800 SCAN
Name
543 HOWARD ST
Address
SF CA 94105
City, State, Zip
1-800-800-7226
Telephone

NUMBER RECOGNITION

How many people in your company? 58

How many people do you maintain on your data entry staff? 12

How many forms do you data enter each day? 975

OPTICAL CHARACTER RECOGNITION (OCR)

OCR technology can now READ most **fonts** used in **business**, *even* when **MIXED** on a **PAGE.**

CHECK BOXES (OMR)

	Never	Seldom	Often	Always
Does your volume sometimes exceed what your staff can ' andle?	☐	☐	☐	☒
Is it preferable to verify rejects, rather than data enter every form?	☐	☐	☑	☐
Is the ability to read mixed data helpful?	☐	☐	☑	☐
Are your budgeting and staffing requirements in conflict?	☐	☒	☐	☐

SPECIAL HANDLING NEEDS

- Forms Recognition
- Automatic De-skewing
- Field Extraction

* CD ROM SERVICES
* WALK-IN SELF SCANNING

Data capture from paper documents or fax transmissions.
Call 1-800-800-SCAN
© 1992 800-SCAN • 543 Howard Street • San Francisco, CA 94105 • (415) 495-6509

Repairs

Repairs

Expert PC Help
Installation and configuration assistance, puchasing recommendations, problem solving, repair of PC, monitors, laser printers, etc. DOS, UNIX, LINUX, networks, etc. Affordable Satisfaction Guaranteed.
(510) 283-6264

UniTek Co.
Hard Disc Services
Specializing in repair of PRIAM
CONNER, MAXTOR, SEAGATE Hard Drives
From 85¢ per MB
(408) 263-9994

Your Mac Broke Down? Need Repair Upgrade?
Call
(800) 622-7977
(408) 747-1555
Fax: (408) 747-1110
We will BEAT any competitive price

Motherboard repair as low as	$75.00
Power supply repair as low as	$45.00
800K/1.4M Floppy drives	$65/$85
Powerbook repair specialist	CALL!!
LaserWriter	CALL!!

24 HOUR SERVICE TURNAROUND
LOGER WARRANTY/FREE DIAGNOSTIC
DT&T
586 Weddell Dr., Suite 1, Sunnyvale, CA 9408

C:\Computer & Monitor Sale & Repair
State Reg. No. E29924
$75 + Parts*
PC Compatibles & Macintosh
Monitors & Printers
SERVICE CITY
1655 Whipple Rd.
Suite 22, Hayward, CA 94544
Fax (510) 475-7739
(510) 475-0747
*Carry-In service rate. tm055

REPAIR MEMORY MODULE'S
256K, 1MB, 4MB
SIMM, SIPP
◆ QUICK RETURN ◆
REPAIR LABOR: $5.00 (3 CHIPS) / $8.00 (9 CHIPS)
PLUS PARTS

BUY /SELL/TRADE
CALL FOR MORE INFORMATION
JET-COMP ENTERPRISES
44061 SO. GRIMMER BLVD.
FREMONT, CA 94538
TEL: (510) 770-9078 FAX: (510) 770-9060

Laser Doc
Your One Stop Repair Center
Loaners Available
Laser Printers-Computers-Networking
PC Copiers-Toner Cartridge Recycling
700 Charcot Avenue, San Jose, CA 95131
Phone: (408) 428-0556 Phone: (408)587-3012
Free Pickup Delivery

Repairs

Repairs

Repairs

MONITOR & TERMINAL REPAIR
ANY SIZE, ANY BRAND USED BY
PC, MAC, WORKSTATION or MAIN FRAME
COLOR, SVGA, VGA, EGA, CGA & Mono
Lowest price * Free estimate * Free pickup * Free delivery
Fast turnaround * 4-Months warranty
Individual, corporation, manufacturer welcome
SELL NEW & USED MONITORS, GRAPHICS CARDS
California Monitor Services
4767 Lafayette St. #103 Santa Clara, CA 95054
TEL: (408) 986-8327 FAX: (408) 986-8328

DRIVE REPAIR & DATA RECOVERY
SYST. SERVICES & UP GRADES
MAC, IBM, COMPAQ,DOS, NOVELL, SUN, UNIX, LAN, OS/2 & MORE.
ON SITE SERVICES, FREE ESTIMATE, LOW RATE
DATA RECOVERY TECHNOLOGY
TEL. 408-249-1986 • FAX. 408-249-1987
5029 Stevens Creek Blvd., Santa Clara, CA 95051

MONITOR REPAIR

- Any size, any brand & specialized in BIG Screen & Terminal.
- Two days quick turn-around, 120 days warranty parts & labor.
- Free estimate, free local pick-up & delivery, Guaranteed Lowest Price.
- Systems upgrade & sale, trade new & used monitors.
- Systems & Monitor maintenance contracts welcome.
- Expert in IBM, Apple, Workstations, Network & PCB repairs.

Paraside Computer Service & Repair
3400 De La Cruz Blvd., Suite #M, Santa Clara, CA 95054
TEL: (408) 988-2339
FAX: (408) 988-0928

TV&T
MONITOR REPAIR SERVICE
BIG SCREEN: ANY BRAND, ANY SIZE, ANY MODEL, MONO, COLOR,
SUN, MAC, APPLE, PANASONIC, NEC, IBM, TOSHIBA, CORNERSTON,
EYE Q, SVGA, AND MULTISYNC.
SUN REPAIR WORK FOR IBM
BUY & SELL USED MONITOR
TWO DAYS TURNAROUND, 120 DAY WARRANTY
FAX: (408) 225-4609 • BEEPER: (408) 488-8535
130 Lewis Rd., Suite 2, San Jose, CA 95111

COMPUTER REPAIR
FREE DIAGNOSTIC
WHY PAY $40, $50 or MORE
Computer Training Academy will run a thorough diagnostic service check absolutely FREE!! Call Now for an appointment to have your equipment evaluated Today!
408-441-6990 ask for Mr. Stevens
CTA Inc.

Repairs for IBM / PC Clone computers. (510) 644-9368.

Monitor and terminal repair at reasonable rates. Pick up and delivery service available. Call Monitor Repair Technology at (510) 828-8117, pager (510) 743-4735.

COPIER REPAIRS. * CANON * SHARP * XEROX * MOST OTHERS. CLEMENT ENTERPRISES, 620 EL CAMINO REAL, SAN CARLOS. 415/592-3900.

Monitor and Terminal Repair. $75 most models. Warranty. 30 years experience. Call Beyond Repairs 510/783-6805.

Monitor Repair
All Brands $65, most parts free. 100 days warranty. We do delivery and pick-up.
(415) 637-3968
BAY TOOL ELECTRONICS CO.

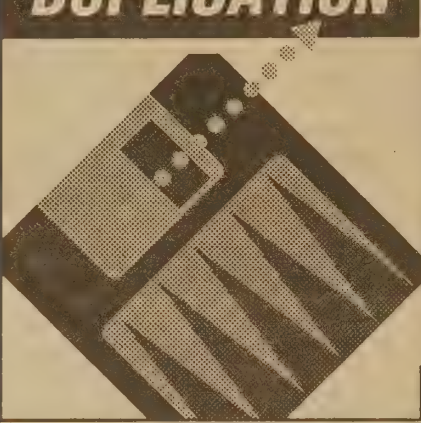
FAST - AFFORDABLE - COMPU-HELP! Set-Up - Configure - Upgrade - Repair - Troubleshoot. Hardware Sales: Custom Systems at off the shelf prices. DOS - Windows - DBase - WORD Perfect - Installation & Training IBM Compats. VISA/MC ok. Only $25 per hour. Call John Herring 510/527-3711.

Services

Do you need computer repairs and upgades at a reasonable cost? Call us for free estimates and on-site service. Certified Apple, IBM, HP Technicians. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

Inexpensive printer repair. Dot Matrix, HP Laserjets, Daisy-wheel Printers. Please call (415) 668-2318.

Services



SOFTWARE DUPLICATION

Complete Software Manufacturing Solutions

- Duplication 100% Guaranteed
- Highest Quality Media & Equipment
- 24-Hour Turnaround
- Custom Labels/Sleeves/Manuals
- Packaging, Assembling & Shrink-Wrapping
- Warehouse & Fulfillment
- Graphic Design & Advertising Services
- Ultra-Competitive Prices

APC, Inc.

29620 Union City Blvd. Union City, CA 94587
Local 510-489-8677 Fax 510-489-8678

800-666-1007

....if you have lost data as the result of the **Michelangelo Virus** don't get mad... call

Drive Repair Services
2122 Adams Ave., San Leandro, Ca. 94577
(510)430-0595 FAX (510)430-0145

Specializing in the recovery of lost data as a result of software and hardware failures

Complete Software Duplication Services
Formats from Apple to Xerox & CD ROM

- 24 Hour Turnaround on most jobs
- Custom labels
- Competitive pricing

IDI

International Datawares, Inc.
408-262-6660 or 800-222-6032
2278 Trade Zone Blvd., SJ, CA 95131

DATA RECOVERY

24 Hour Turnaround • Free Estimate

DATA-ONE
(408) 434-1002

940 Rincon Cir. San Jose
(HWY 880 & Montague)
9-5 Mon thru Fri

DATA RECOVERY

· DOS · MACINTOSH · NOVELL · OS/2 · UNIX

- Self engineered tools & technology provide complete data recovery when no one else can.
- Highest success rate • Fastest turn around • Best prices

Micro Storage
COMPUTER SERVICES
2245 First St., Ste 116, Simi Valley, CA 93065
Tel: 805-582-9101 • Fax: 805-582-9102

Slides $8
4x5 Transparencies

PC Imaging Specialists
Presentation Graphics
Quattro Pro
.TGA .PCX .TIF .GIF

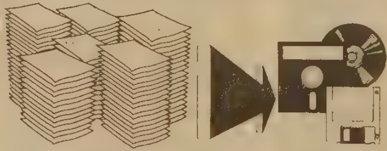
McLain Imaging
tel: (408) 252-6266
bbs: (408) 252-6265

Professional word processing. Manuals, labels, resumes, letters, etc... Rush jobs a specialty. (510) 945-0453.

REAL INTERNET. With modem dial 408-293-9010 or 415-364-5652. Login: guest.

MICROTIMES
Classifieds!
510-934-3700

FOR HIRE... Typist--2,500 WPM



NEW! CD-ROM OUTPUT!
Why buy expensive hardware and software? Use our cost-effective quality service.

Any Printed Material Into Any IBM or Mac Program...FAST!

1-800-300-SCAN
Same Day Service

SCAN TYPE®
Scanning/OCR Services

SALE • UPGRADE • REPAIR
DATA RECOVERY • INSTALLATION

DATA RECOVERY

CAPACITY	MFM/IDE/RLL ESDI/SCSI	CAPACITY	MFM/IDE/RLL ESDI/SCSI
10 - 19MB	$180	86 - 119MB	$430
20 - 29MB	$230	120 - 160MB	$480
30 - 39MB	$280	161 - 230MB	$530
40 - 49MB	$330	231 - 330MB	$580
50 - 85MB	$380	331 - 430MB	$630
		431 - 700MB	$680

HARD DRIVE	REPAIR	PRICE	HARD DRIVE	REPAIR	PRICE
CAPACITY	MFM/ IDE/RLL	ESDI/ SCSI	CAPACITY	MFM/ IDE/RLL	ESDI/ SCSI
10-19MB	$40	$45	86-119MB	$100	$105
20-29MB	$45	$50	120-160MB	$110	$115
30-39MB	$55	$60	161-230MB	$130	$135
40-49MB	$65	$70	231-330MB	$160	$165
50-85MB	$90	$95	331-430MB	$200	$205
			431-700MB	$230	$235

* Data recovery includes repair of the drive.
* No charge if we are unable to recover data.

MONITOR REPAIR PRICE (12" & 14")

MONITOR	QUANTITY 1	2-5	6-10	11+
Any Mono	$39	37	35	33
Any CGA	$55	53	51	49
Any EGA	$59	57	55	53
Any VGA	$69	67	65	63
Any Super VGA	$75	73	71	69
Any Multisync	$89	87	85	83
Any Mono Terminal	$65	63	61	69
Any Color Terminal	$89	87	85	83

CRT AND FLYBACKS EXCLUDED
*FREE Pick-up & Delivery in O.C. if More Than Five Monitors

SYSTEM UPGRADE

XT to 386SX/33MHz w/1MB	$129
XT or 286 to 386DX/40MHz w/1MB	$159
286 or 386 to 486DX-33/66MHz w/1MB	$419/$599

UPGRADE SPECIAL TO 486SLC/66MHz w/1MB ONLY $289
FREE LABOR!

PRINTER REPAIR

Any Laser Printer
$120 + Parts
FREE ESTIMATE!
FAST TURNAROUND!
Any Dot Matrix Printer
$65 + Parts

FLOPPY DRIVE REPAIR PRICE

5.25" (360K & 1.2MB)	$20
3.5" (720K & 1.4MB	$25
3.5" PS/2 (720K & 1.4MB)	$35

SPECIAL SALE OF THE MONTH

HARD DRIVE

CONNER/SEAGATE/WESTERN DIGITAL/MAXTOR

210MB	IDE		NEW	$199
260MB	IDE		NEW	$209
340MB	IDE		NEW	$255
425MB	IDE		NEW	$315
Seagate	20MB	MFM	REF.	$59
Seagate	40MB	MFM	REF.	$95
Seagate	30MB	RLL	REF.	$65
Tandon	40MB	RLL	REF.	$65
Miniscribe	20MB	SCSI	REF.	$65

* 1 Year Warranty On New Hard Drive

* 6 Months Warranty On Refurbished Drive.

WE BUY & TRADE-IN WORKING OR NON-WORKING HARDDRIVES

FLOPPY			CONTROLLER	
1.2MB TEAC	NEW	$46	MFM(AT or XT)	$39
1.44MB TEAC	NEW	$41	RLL(AT or XT)	$39
(1.2, 1.4MB NEC)	NEW	$46;$41	IDE w/1/O	$14

PRO COMPUTER COMPANY

12761 Western Ave., Suite B
Garden Grove, CA 92641
Tel.: (714) 891-8293
Fax: (714) 891-3269

Business Hours:
9:00am to 6:00pm Mon. thru Fri.
Sat. 10:00am to 4:00pm

Prices subject to change w/out notice

Software

TrueType fonts for Windows 3.1. Shareware. 300/$30. Postscript format also available. (415) 728-5910.

Novell Netware v3.11 20-user. Two packages left in stock. $1600 new. Out of business. (415) 343-7659.

QuattroPro 4.0 $40. QuattroPro Win $40. Norton Desktop 2 $40. Windows Draw 3 $40. (408) 479-4925. Marcelo.

Big opportunity to make money, automate your client's business. Buy the rights to our vertical market applications and sell them under your name. Manufacturing, Distribution, Accounting System, Church Management, Medical and Dental Billing. Integrated Solutions (818) 843-5126.

FREE IBM SOFTWARE CATALOG, Low Prices, Best Selection, ASP Vendor - BRIGHT IDEA! SOFTWARE, 5339 Prospect Road, Suite 197M, San Jose, CA 95129. VOICE/FAX 408-252-0542.

100 PC games $10. Any PC, easy installation, 2 day priority mail. Printed documentation. (510) 686-1297.

FOR SCO UNIX FrameMaker, BRAND NEW!!! Given as prize. $250. (510) 458-9110.

FOR WINDOWS Wordperfect Presentations, BRAND NEW!!! $115. (510) 458-9110.

MANUFACTURING SOFTWARE: Are you sitting on the fence? Knowing you have to TIME your inventory usage. We sell and support fully integrated MRP-Accounting software. (702) 885-9125.

CLEARANCE SOFTWARE SALE! ALL UNDER $99 New IBM OS/2 5.25" v2.0 $69. . . New UDP 86T 1 font F/HP laser $89. . . New Adobe type library, hevetica 2F/Mac $99 . . . New Sitka 10Net network starter pack v5.0 both floppy F/Two users $40 . . . New Microsoft MS-DOS operating system v4.01 5.25" $25 . . . Demo Softklone Mirror III full spectrum data communication includes prism $20 New perfect exchange 5.25" v4.01 for DOS $25. . . New Farallon - Timbuktu F/Mac v5.0 $75 . . . Demo Farallon - Timbuktu F/Mac v5.0 $65 . . . New Farallon - Powerpath v1.0 $75 . . . Microphone II v3.0 from software ventures $75 . . . Lotus 1-2-3 2.01 (manuals only) $10 . . . Demo Lotus 1-2-3 v2.4 disk and getting started manual $50 . . . Trival Pursuit daily planner F/Windows $5 . . . All products are cash only and as is. Most of the products listed are unopened. All sales are final. Please call Gigabytes at (510) 440-8032 or Fax us at (510) 440-9099. We also do repairs and upgrades at very competitive prices. Just give us a call and we will give you a quote!

Classifieds

Services

Services

Don't Delay, Do it Today!!!

DUPLICATION

IBM OS/2 • MACINTOSH • APPLE
COMMODORE • UNIX
CD ROM
24 Hour Turnaround.
Fastest in the West,
No Minimums!!! Custom Printed
Tyvek Sleeves & Labels
Optical Text Scanning

I,D. DISK CO. 415-883-4628
NATIONWIDE 1-800-987-7509

Software

Is your IBM/AT-compatible over two years old? Get cmosSaver now and avoid the headaches of restoring your computer after a battery failure. Send $9.95 to cmos Saver Co., 1442A Walnut Street, Berkeley, CA 94709.

Beautiful Asian Women on your Computer! Exotic women of the Orient. 256 color, SVGA GIFs. $5.00 for 1.44MB sampler & catalog. Cyber-Graphix, 2040 Polk #317M, San Francisco, CA 94109. Must state over 21!

Software

Software

Mac-In-DOS

BREAKTHROUGH!!!

Allows PC to read/write MAC 1.44 high density diskettes. Exchange of text, binary & graphics files between Mac & DOS IS NOW POSSIBLE with this software. No cable or hardware is needed.

ALSO AVAILABLE...•SUN•IBM•HP•SCO•Interactive UNIX

NEW SOFTWARE!!!

$49⁹⁵

-NOW, YOU CAN CUT AND SAVE ANYTHING, ANYTIME, ANYWHERE!
-Copies all of your graphic and text needs
-Enables user to cut any screen, anytime, anyplace, anywhere
-The Cut data can then be deposited in a custom clipbook
-Was designed to be a key utility for multi-media and desktop publishing

I'll Be Back! *"While you were out" system for Windows*

- *Post messages on the screen of your IBM PC or compatible*
- *Let others leave messages for you*
- *Lock system to prevent unauthorized user access*
- *Place your own bitmap on the screen in ScreenSaver™ Mode*

Pacific Micro (415) 948-6200
To order call: 1-800-628-DISK

Calligraphy CALLIGRAPHY calligraphy Calligraphy Calligraphy Callig
Calligraphy calligraphy Calligraphy CALLIGRAP
Calligraphy Calligraphy Calligraphy calligra
Calligraphy CALLIGRAPHY Calligraphy Callig
Calligraphy calligraphy Calligraphy CALLIGRAP
Calligraphy Calligraphy Calligraphy Calligraphy Calligraphy callig

12 Calligraphic Fonts for Windows & WP6.0. $9.95

SUSHI DOG GRAPHICS
P.O. Box 26A54
Los Angeles, CA 90026
1-800-SUSHI DOG

MICROTIMES
classifieds

FREE DISC: Bull market, certified rare coins. Christopher Gelormino, 5675 8th Street, Dublin, CA 94568.

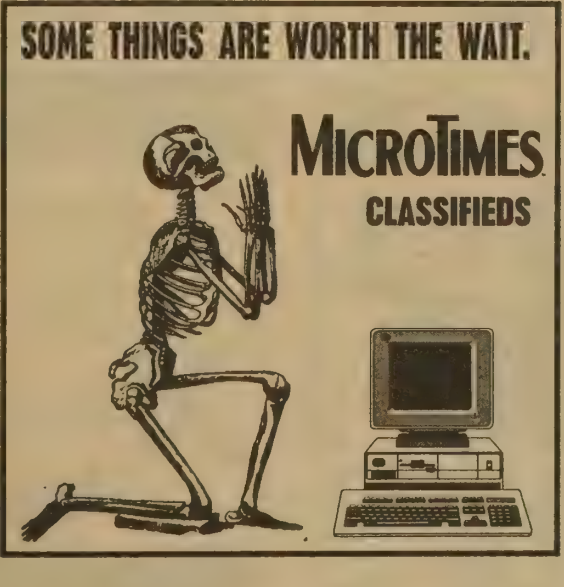
94539.

MS OFFICE 4.0 (Excel, Word, Powerpoint and Mail) for Windows. Brand new! $350. (408) 773-8756.

IBM Shareware. Windows, Business, Games, our specialties. Best prices. Send $1 for catalog on disk listing 20,000 programs. Information Plus, P.O. Box 15326, Fremont, CA

Video

Video recording of seminars, depositions, sports events, graduations, etc. Transfer of pictures and slides to video. Editing with Video Toaster on VHS, S-VHS or 3/4". Animation rendering to video tape.
(510) 536-1471


SOME THINGS ARE WORTH THE WAIT.
MICROTIMES
CLASSIFIEDS

Career Marketplace

Attention Human Resource and Recruitment Managers:

MicroTimes CAREER MARKETPLACE has the targeted reach needed to make any recruitment campaign a success!

Call (510) 934-3700 for more info.

Employment Info

Software Jobs Overseas!

The International Computer Professional Association gives you the world-wide contacts and up-to-the-moment info you need to find a software job in London, Paris, Sydney, and many other cities around the world! For information about this new network of global opportunities call us 24/hrs/day at (415) 695 - 7618 or by fax at : (415) 543 - 3022

Jobs Offered

COMPUTER PROFESSIONALS:

* Field Service & Inhouse positions available now!
- PC/Apple techs, DOS, Windows, NETWARE
- NOVELL Network Engineers
- Telephone tech support
  - multimedia products

1 TECH AID
7700 Edgewater Drive #543
Oakland, CA 94621
(510) 636-7930

Consultants Network

Accounting

Part-time Controller. Accounting system installation, Monthly Financials, Business Plans, Free Consultation. LEN MARSH (415) 286-7527.

Business Opportunities

Make $25,000 per year part-time servicing computers. Complete training on video. Free information. (408) 778-2944.

Engineering

Ludiek Design Inc
Turn-key Engineering Services
Mechanical ~ Hardware
Software ~ PC Boards
Technical Documentation
Ph/FAX 408/462-2722
3567 Benton Street, Suite 363, Santa Clara, CA 95051

C++ Object Framework Design, Implementation, Porting, & Testing for Win32, UNIX, and Macintosh. 5 years C++ Experience, Extremely Rapid Development. Philosopht Software 408.481.0563.

Autocad. We develop Autolisp/Ads applications to your specifications. Training & CAD standards. (415) 960-0719 or (510) 656-3965.

Finance

Venture funding available; Business plan prep/strategy. (415) 441-8083.

General

Computer Coach. Individuals, small businesses, workgroups, networks. Purchase, install, train, troubleshoot, repair, recover. Great rates. PC/Macs. (415) 776-6584.

Engineering

***Specialists** in computer aided design & drafting, manufacturing, and facilities management on Macintosh & Windows. Highly skilled support & training. And, for a limited time, some very special conversions....*

Claris CAD to Vellum **$795.⁰⁰**
w/o Claris: $2,995.⁰⁰

Endorsed by Claris & Burt Rutan. Easy to Learn, Easy to Use, Accurate & Powerful. Call to arrange a demonstration.

Allowances of $2,755.⁰⁰ to covert your Claris CAD, Generic CAD for Mac, MacBravo!, or VersaCAD for Mac **to AutoCAD R12 for Macintosh.**

The Industry Standard, now with a full, easy to use Macintosh interface. Call for the
'Guide to Converting to AutoCAD'
& our AutoCAD Fast Start Seminar Info.

Murtaugh Represents

AutoCAD * Gibbs ncCAM * Vellum 3D
Mechanical & Facilities extensions for AutoCAD R12 Macintosh (& DOS & Windows); Vellum for Windows & Macintosh.

Autodesk Authorized Dealer **(800) 404-9105**

General

GET MORE OUT OF YOUR COMPUTER!

Friendly computer wizard with experience will help maximize your use of:
■ Accounting ■ Word Processing
■ Database ■ Spread Sheet

Free first consultation • Sampson Information Systems
415/469-9852

FAST - AFFORDABLE - COMPU-HELP! Set-Up - Configure - Upgrade - Repair - Troubleshoot. Hardware Sales: Custom Systems at off the shelf prices. DOS - Windows - DBase - WORD Perfect - Installation & Training IBM Compats. VISA/MC ok. Only $25 per hour. Call John Herring 510/527-3711.

PC/MAC Installation, troubleshooting, repairing, networking, programming, etc With 4+ years of experience. Only $35/hr. Telephone/Fax (510) 530-4706.

PC/Network Help. Installation, administration & training. DOS, Netware, Windows for Workgroup, eMail, fax, MS Access. Low rates. A++ Associates (408) 997-5005.

General

Professional Technical Services

DOS, Windows & OS/2 support for business

- Setup & configuration • Novell & Lantastic networks •
- Programming • Data recovery • Debugging • Communications •

Microsoft Excel, Access & Visual Basic programming

On-site support 24 hours a day - 7 days a week

John Purins 415-340-1744

TSG

The Stradivarian Group
Professional Computer Services

Macintosh/DOS/Windows
- Software Installation
- Hardware Installation
- Custom Programming
- Networking • Training

(408)257-4482

Expert PC Help

Installation and configuration assistance, puchasing recommendations, problem solving, repair of PC, monitors, laser printers, etc. DOS, UNIX, LINUX, networks, etc. Affordable Satisfaction Guaranteed.

(510) 283-6264

Custom Programming

Low Rates. High Quality.
Object Oriented Programming.
Latest Tools.
C, C++, Visual Basic,DOS, Windows, NT, UNIX, X, Motif, Relational Databases.

SOFTWARE A TO Z, INC.
Ph: (408) 263-0775
Fx: (408) 263-0777

You Can
SAVE
up to **30%** on
Computer and Network
Service & Support
Just Call
F.R.P.
Data Services
408-377-1470

"With 7yrs. experience we give you the highest quality service at the lowest possible rates!"

Troubleshooting, Installs, Upgrades, Services & Support.
You name it, we will do it or fix it for less!
FREE ESTIMATES
FREE CONSULTATIONS
FREE COPY OF F-NET

LAN

Network Installation/Repair

NOVELL. UNIX Microsoft.

- We provide total network solutions for Novell and UNIX networking
- Hardware & Software Configuration & Test
- Maintenance Contract
- Service & Support
- Troubleshooting

Computer Training

DOS • Windows
Word • Wordperfect
Excel • Lotus 1-2-3
Quattro Pro • Filemaker Pro
Quicken • Quickbooks
Powerpoint • Persuasion
Pagemaker • Framemaker
Novell • UNIX
C • C++ • SCO UNIX

Software Institute
930 Town & Country Village
San Jose, CA 95128
(408) 249-7272 Fax: (408) 244-2316

LAN

Install **Novell**
We are specialized in
Network Design/Installation
Consultation/ Service & Support
Call for special weekend service
Jasmine Computers
(408) 379-6395

NOVELL NETWORKS

- *Design and Installation*
- *Hardware and Software Configuration*
- *Support and Service*
- *Free Consultation*

COMTEQ COMPUTER CO.
(408)988-4440

Legal

IMMIGRATION

Law Offices of Paul M. Heller
Specializing in
Labor Certification & Work Visas for
Engineering, Computer, Accounting, Business, & other Professionals.

Also: family visa/US spousal cases; change to student (F-1) status; Treaty Trader/Investor (E-1/E-2); Intra-company transferee (L-1).

Individual, Bus. & Corp. Clients

Free Consultation!

415-291-8000

LAN

Give You More Time to Make More $$

Novell NetWare
V4.x, V3.x, V2.x, and Lite
Univel UnixWare
Personal Edition & Application Server.

- Network Design & Installation
- Troubleshooting
- Maintenance Contract
- Hardware & Software Configuration & Test
- Service and Support

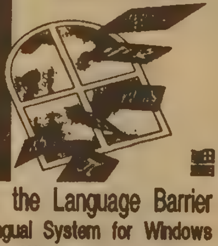
TeleMagic for Windows

A fully configurable, relational Contact & Personal Information Manager integrated w/ Auto-dial Productivity Tracking Report Generation, Word Processing, and E-Mail Capability. Avaiable in both single-user & network version.

Microsoft® SOLUTION PROVIDER

We are in partnership with Microsoft to solve customer problems and provide Windows solutions.

TwinBridge 雙橋



Break the Language Barrier
Multi-Lingual System for Windows
Supports Windows for Workgroup, NetWare and Lantastic network

Give us a call today! See how we can help you! Tel: (408) 957-5738 Fax: (408) 945-1660 **V88 Systems, Inc.** 1538 Centre Pointe Dr. Milpitas, CA 95035

Michael S. Swartz, ECNE

Novell network, installation, service and support.
Specializing in system analysis, network design, upgrades, integrating PC's and Mac's, Corp. Comm servers, E-mail and Fax systems, wide area networks & troubleshooting.

Call today for free consultation. I am here to help you.
Tel.: 408-286-7405 ● FAX: 408-286-7137

CNEPA

NOVELL Certified Netware Engineer. Installation, service and troubleshooting, 10 years experience. LAN SOLUTIONS, Novell authorized reseller. (415) 579-1004.

ENTERPRISE CNE CONSULTANT. Expertise in TCP/IP connectivity - Unix & Netware, Netware/IP installation, service, and support. (510) 490-4363.

COMPUWELL NETWORKS. The easiest, fastest and most economical way to network your office. Windows for Work Groups, Novell Lite or LANtastic only $69. Netware 4 call now. Free consultation. Hector (415) 821-0122. Pager (415) 915-0346.

Legal

LEGAL ADVISOR BBS 510-685-1280. Legal advice, "How To..." discussions, like clearing credit records, 900 numbers, tax forms, form contracts and letters. Your first call's free!

Programming

Microscale Networkings

- -Small Office Installation
- -Flat Rate
- -Free Consultation
- -Service and Support

(415) 586-2891
pager (415) 201-2798

Programming

FILEMAKER PRO FOR MACS & PC'S. We specialize in database programming for small businesses. We can either teach you how to use Filemaker, or we can set up a database for you to use. We also use Excel, Word, Quark, Pagemaker, Access, Wordperfect, Foxbase+, and others. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

CUSTOM DATABASES FoxPro, FoxBase, dBase, Clipper, Paradox. Multi-user systems, software modifications, code generators, PC/LAN, SBT. Walter St.John: voice (510) 549-9165; pager (510) 310-2080.

CMOS LAYOUT DESIGN, DEBUGGING, and BREADBOARDS. tel: (408) 377-4824 fax: (408) 559-7630.

CAD to CAM & Q/A SYSTEMS

For Example (ViewLogic to MAXCIM)

Excel Mac — ViewLogic/Unix/Sun — MAXCIM VMS/VAX

USER I/F: Spreadsheets, RDBs, SQL, Forms
CLIENTS: Mac/DOS/Windows SERVERS: HP, Sun,...

THEOCOM 415 508 0821

MACINTOSH MY SPECIALTY

Shreadsheet • Database • System Programming
Installation, training, troubleshooting
purchase advice – Mac and PC

Stanford C.S. degreee • good references
Ken Brooks 415/856-1224 Palo Alto

Database Programming

- ♦ FoxPro
- ♦ Clipper
- ♦ dBase IV
- ♦ Windows or DOS
- ♦ Accounting systems
- ♦ Bar code systems
- ♦ Multi-user
- ♦ Complete support

AccounTech

408/266-2660

Since 1983 ♦ Member BBB

Consultants Network

Programming

PC APPLICATIONS FOR
CUSTOM SOFTWARE
In Foxpro For Windows
And DOS. PC Setup And
Training Available
CALL PC PERSON
(408) 379-1839

Developer-publisher w/11 years exp.: design, code, test, manuals, support. Prof. prgrmng in C++, Windows, Clip/Fox, etc. Hardware sales/services.
(415) 362-2595

PARADOX
✓ On-Site Training
✓ Applications
✓ Troubleshooting
OTM ENT. 510-886-1557

SCIENTIFIC PROGRAMMING Data analysis/presentation. Database design. Scientific/technical writing. System administration. Norcov Research (510) 559-9645.

Microsoft Windows and Windows NT consulting is our specialty. We write programs for you by the hour. We have well known clients. 408-734-1542.

Port your Macintosh programs to Windows. Expand the market of your software by having your programs developed into professional quality Windows applications. Pacific Odyssey Software: (800) 641-6463.

Software Engineering Services (510) 754-2336. Requirements and specification documentation. Design methodologies. Programming (xBase dialects, PASCAL, & C). Implementation (training, testing, & support).

Software development for realtime test and data acquisition and analysis for engineering, manufacturing, and R&D. Tony Schlemz (510) 489-3522.

Software

MAZTEK CONSULTING. PCs, Windows. DOS troubleshooting, installation, and programming. Over 4 years of experience in PC support. (individual training available). (408) 255-1138.

Programming services, automated tests, data acquisition and analysis for engineering, manufacturing, and R&D. Tony Schlemz (510) 489-3522.

Tech Writing

Timing diagrams and line drawings for technical publications drawn in FrameMaker $30/hr. (415) 728-9188.

Custom manuals, documentation, help text and training materials for your software or application. Call Larry (415) 692-0824 or (800) 837-7334.

Training

MACINTOSH AND IBM-PC TRAINING Learn Windows, Excel, Clarisworks, MS Works, Workperfect, Word, Pagemaker, or Filemaker Pro, at your home or office. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

MacAcademy instructional videos - Pagemaker, Photoshop, Macromind, Free Hand, Excel, Filemaker, Superpaint and more. Sales and rentals (415) 255-9760.

Macintosh Help. One on one training in English, no technobabble. Also purchase advice, set-up, troubleshooting, networking, installs/upgrades by Apple certified technician. Call Frank at Yoyodyne Systems (415) 879-0285.

Don't be roadkill on the Information Highway. Learn the Internet in small, interactive classe. Unix, C, too. (415) 661-5845.

Experience VIRTUAL REALITY! Get an intro to VR from the industry's best & brightest on STATE-OF-THE-ART equipment. Division, Inc. 415-364-6067.

Computer Training
Hands-on Training for the PC & Mac
PC INTRO
MAC INTRO
WINDOWS
WORD
$69 half day
$129 full day
AMI PRO
WORDPERFECT
EXCEL
LOTUS 1-2-3
QUATTRO PRO
ACCESS
PARADOX
FILEMAKER PRO
WORKS
QUICKEN
QUICKBOOKS
POWERPOINT
PERSUASION
PAGEMAKER
FRAMEMAKER
and many more!
InfoMind
408/243-1121

Windows

WINDOWS RUNNING SLOW? I can help. $35 flat fee. Call the Speed Doctor. (408) 227-4193.

Multi Media

MultiMedia

Attention Multimedia start-ups and vendors:

Get your services and display your products in our new **Multimedia classifieds.**

For more information, please call

(510) 934-3700

CASSETTE SPOOLERS
BULK LOADING
CASSETTES
Agfa
Linotype
Ultre*Setter
Varityper
Linotype Cassette Repair
Cassette Tops
Cassette Buckets
DESKTOP VIDEO PRODUCTION
SYSTEMS
MAC-BASED EDITING SYSTEMS
Collier Instruments
P.O. Box 9442
Berkeley, CA 94709
(510) 845-6389 Fax: (510) 845-5638

Classifieds

MICROTIMES
CLASSIFIEDS

Computer Rentals

Quest Micro Service
On-site Service
Flat-rate
6-hour response time
1-800-635-8811
Micro Services
Repairs
QUEST

PCR-Personal Computer Rentals
PCR PERSONAL COMPUTER RENTALS
"The Professionals In Computer Rentals"
386/486, Macs, Notebooks
Laser printers
408-998-1225
510-613-8400
415-243-8969

ARE OTHER CLASSIFIEDS GIVING YOU HEADACHES?

PREPARE FOR THE CURE...

MICROTIMES™
CLASSIFIEDS
510-934-3700

Net USA

The Best
Support
Service
Price

Super Sale

486DX MB w/256K Cache
(3 VESA LB & 6 16Bit & 1 8Bit Slots)
Intel 486DX-33MHz CPU
4MB Memory (70ns)
Chinon3 1/2" 1.44MB FDD
212MB IDE HDD (12~14ms)
DTC 32-Bit VLB IDE Controller 2H/2F
2 Serial, 1 Parallel, 1Game Ports
Trident 32-Bit VLB SVGA Card w/1M
14" SVGA Color Monitor
Mini Tower Case w/230Watt
Chicony 101 Enhance KB
Mouse and Pad

Price: $1138

Intel 486DX2-66MHz CPU System with Cooling Fan $1328

Blow out Sale

DTC VESA 2278 LB Controller 2H/2F w/IO	$29
386SX-33MHz w/CPU	$65
386DX-40MHz w/128K w/CPU	$89
486DX 33/50/66/P24MHz w/256K	$89
Adaptec 1522 SCSI Controller	$74
Trident VLB SVGA Video w/1M (Max. 2M)	$69
Spider 32-Bit VLB Plus w/1M (Cirrus 5428)	$99
Spider 32-Bit VLB Black Widow(IIT X15)	$185
Sound Blaster 16 w/Microphone w/CD	$155
Panasonic Double Speed CD ROM 320ms	$169
KOSS HD4 w/AC Adapter	$55
Optical Glass Screen Filter	$15
SIIG 14.4/14.4 S/R Fax/Data Modem	$111
SIIG 2 16550 Serial, 1 Bi-Dir. Parallel Ports	$39
SIIG 160Bit EGX013 Ethernet Comb.	$45
SIIG 16-Bit EGW122 Jumperless Comb.	$54
IBM 486SL2-66MHz w/64K w/Math Chip	$289
Math Chip for 386SX-33 & IBM 486SL2-66MHz for Only	$25

NetUSA will configure a computer to meet your personal specification! Special orders are not a problem!

NetUSA strives to exceed your expectations!

NetUSA solves your computer problems!
☑ Software, hardware you name it.
☑ Free diagnostic test and consultation!
☑ Free Pick and Deliver for prescribed areas!
☑ Only a $39 flat-fee labor charge!

NetUSA Computer Co.
844 Folsom St. Suite #202 SF, CA 94107
(Between 4Th St. & 5Th St.)
(415) 543-0108
FAX: (415) 543-0109
Mon-Friday 9AM-6PM Sat-Sun 10AM-6PM

The **PowerPC** eventually will be capable of running all kinds of hardware and software now found on other platforms.

continued from page 169

ing attendance. Come to a BMUG meeting, and be the first on your block to see the latest awesome technologies!

- The best amusement of the show must go to Flying Colors by Magic Mouse Productions. It has a Kid Pix-like interface, but is designed for older kids and adults. The programmer, Edward de Jong, told me that he had tried to interest Brøderbund in it, but got nowhere with them. Their mistake, since this is hot, hot software.

Flying Colors lets users create complex color pictures easily, filling backgrounds with thousands of beautifully drawn little characters and paraphernalia. The program uses a stamp tool like Kid Pix, but with extra controls. The masking feature of Flying Colors is so easy and intuitive that the more serious graphic programs could take a lesson from it.

This program will keep kids busy for hours. It's the perfect software companion to the cheap color printers from Apple and Hewlett-Packard. The list price is $79.95 and you'll find it at knowledgeable Macintosh stores.

- Scott Beamer, BMUG's biz guru, turned me onto a really great educational game. The Cosmology of KYOTO is a CD-ROM look into medieval Japanese history by Yano Electric Company of Kobe, Japan.

The user is dropped into the streets of Kyoto around a thousand years ago, during the Heian period. You interact with different characters, learning the customs and lifestyles of the time as you proceed. You can play games with the nobility, or get into trouble with malevolent spirits. There's an extensive online reference with information on history, society, literature, and religion. The company is looking for a distributor, so if you're interested contact them directly in Japan.

- I had a lot of fun playing around with the CAMPS 2.0 (Computer-Assisted Music Processing System) from Microworks Corp. The company is really two guys from the Berklee School of Music who have put together a really cool music composition program.

You give it various harmonic and rhythmic parameters and it generates a song. The program uses rule-based templates for styles, not the prepackaged riffs or segments found in other programs. All of the elements of the composition are accessible through a maze of dialogs—it sounds harder (ha!) than it is in actual use. It also creates a melody line for the harmonic structure you've approved. Since CAMPS understands MIDI, you can save the file and dump it into a sequencer or music page-layout program.

I can't really figure out where the developers are heading with the program. They've put a lot of work into it and were mentioning a number of arcane features they might be adding. I think it could be a wonderful instructional aid to teach harmony and musical form and design to students. It also might be a fun way to give musically inclined users an easy bridge to composition. The guys mentioned a price tag of around $200 for the full-featured flavor of the software. The latest version is still in beta, so if you're interested in the program, contact Microworks.

- The "adult materials" were housed in a separate brightly lit room this year, off of the main show floor. This killed any nostalgic back-in-gradeschool-and-pulling-out-the-naughty-magazines-behind-the-schoolhouse feeling. Most of the goods were overpriced and inane. The Heidi's Girls' CD-ROM advertisement claimed that it "would make hacking infinitely more pleasurable." Let's dynamically allocate our global variables, Baby...

TIP CITY

Here are a couple of recent tips from the incoming mailbox:

- Members of SIG Newton, BMUG's Newton special interest group, say to beware of the Newton application *NetNames*, which can kill a RAM card. Remember that flash and static RAM cards can't be simply reformatted like floppy drives or hard disks. When they die, it's for real. Fortunately, the program was never made available on Planet BMUG, but a buddy might "do you a favor" and grab it off some other bulletin board.
- BMUGers' hearts and sympathies go out to our friends and members in Southern California. Everyone in the San Francisco Bay Area remembers the Loma Prieta quake and the long recovery. Here are a couple of earthquake specific tips:

Store back-ups in a secure place. Of course, you're backing up your data (ha!), but it's not really wise (albeit convenient) to keep your spare set of files sitting in a box next to your computer. There are special data safes that are quake and fire proof if you have the dough.

Pull the plug on your Mac. After natural disasters, unreliable electrical service can generate power spikes that will blow up sensitive appliances. This also will help relieve unnecessary demand on the power-grid when the juice is restored.

Reformat your hard disk after a heavy shake. If your drive takes a bouncy ride across the table during the quake, who knows if the heads may have hit the surface of the media? Formatting software finds the bad places on a disk and makes sure none of your future data will be written there.

Fasten down your computer and belongings. There's an excellent catalog of earthquake safety fastening products by the Q-Safety company of Pasadena. They use ingenious industrial-strength velcro straps to hold down computers and everything else. ■

Upcoming Events:

March 3	Delrina *Delrina FaxPro* and *Far Side Daily Planner*, Storm Technology *PhotoFlash* (desktop photography).
March 10	No Main Meeting due to University booking of meeting hall. Sorry!
March 17	Rae Technology *Rae Assist* (personal info manager); Neurolink *NeuroLink* (bio feedback).
March 21	BMUG South at 1922 The Alameda, United Way Office in San Jose. Tut Systems *Ethernet on LocalTalk* (network stuff); ProVUE Development *PowerTeam* (personal info manager).
March 24	Common Knowledge *Arrange* (personal info manager), Intuit *Quicken 4.0* (tax software).
March 28	BMUG West at Exploratorium Science museum in San Francisco. Demonstrations to be announced.
March 31	Imaga *BlissSaver* and *BlissPaint* (interactive screensaver and graphics); Software Ventures *MicroPhone Pro. 2.0* (telecomm).

Please Note: BMUG main meetings are held in 22 Warren Hall on the UC campus (near University and Oxford). Call the BMUG Announcement Line at (510)849-9114 for the latest news on meetings, special interest groups (SIGs) and seminars. See you there!

WHAT IS BMUG?

BMUG is an educational, nonprofit, consumer advocacy group, organized to share information and provide critical direction to users and developers in the computer community worldwide. It is an independent advocate, not affiliated with any manufacturer, delivering trustworthy information and useful products.

Like any growing organization, it is many different things to its fourteen thousand international members. BMUG supports many special interest groups (SIGs), an 18-line bulletin board system (BBS), software library, weekly meetings, publications, and much more. BMUG also puts out a semi-annual 400+ page book that we call our "newsletter."

Our motto continues to be: *We're in the business of giving away information.*

Come and join in the dialogue at the BMUG main meeting every Thursday evening, 6:30–9:30 (or whenever we finish), in 22 Warren Hall on the UC campus. BMUG West and BMUG South are monthly meetings held in San Francisco and San Jose.

The BMUG office, 2055 Center Street (a half block from the BART station), is open to the public from 9 am to 5 pm. Please come by, say hello, and meet other members.

The BMUG Helpline provides volunteer technical assistance and telephonic handholding for our members. If your question can't be answered on the spot, we try to get you in touch with someone who can help. Of course, not every problem can have a happy ending—but we try. Improve your Macintosh education and help others by becoming a Helpline volunteer!

BMUG has one of the most up-to-date, comprehensive software libraries around with hundreds of disks filled with the latest versions of public domain or shareware programs. BMUG also produces CD-ROM collections, including the digital video TV-ROM™ Too, Font CD, and the BMUG PD-ROM.

Our new graphic user interface FirstClass 18-line BBS offers many of the latest versions of files in our software library as well as news, private mail, rumors, etc. With our multiline capability, you can have access to BMUG almost 24 hours a day. It's easy to use, fun, and a great resource.

BMUG can be found on most electronic services. BMUG can also be reached through the Internet international network through UG0001@applelink.apple.com.

To get some further information about BMUG please write to: BMUG, 1442A Walnut Street, #62, Berkeley, CA 94709. If you prefer to phone our business office call (510)549-BMUG, or fax (510)849-9026.

Call the Quality Leader

Lifetime Labor & 1 Year Parts Warranty
We Use The Finest "Made in USA" Motherboards

FREE 2-Hour Software Installation on all systems. *FREE* labor on upgrades on all of our systems for 5 years.

VESA Local Bus System

8MB RAM, 15" Monitor, 200MB Local Bus System

MICRONICS Computer, Inc.

nice logo

- Micronics/NICE VESA Local Bus 486 Motherboard
- Socket for Intel's overdrive chip
- 8MB RAM
- VESA Local Bus 2FD/2HD IDE Controller Card
- 245MB Maxtor 15ms IDE Hard Drive
- Diamond Stealth/24 *or* Orchid 1280/plus VESA Local Bus w/1MB
- Viewsonic 15e NI 15" .28 1024x768 Monitor
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- 2 Serial/1Parallel I/O Ports
- Maxiswitch or Focus 101-key Keyboard
- GT-300 Deluxe Full Tower w/Dual Fan & 300W P.S.
- DOS 6.2 w/Manuals
- Windows 3.11 w/Manuals
- Logitech Dexxa Mouse

486DX2-66/256K $2295 $2145

486DX-33/256K $2095 $1945

486SX-25/256K $1945 $1795

UPGRADE	Ultrastor 34F VLB SCSI+HD	DTC 3270VL VLB SCSI+HD	ATI Ultra Pro VLB/1MB	ATI Ultra Pro VLB/2MB	Viper or P9000/2MB
ADD	$250	$100	$135	$220	$220
UPGRADE	Maxtor 340MB	Maxtor 540MB	Viewsonic15 15"	Viewsonic17 17"	Viewsonic20 20"
ADD	$80	$250	$75	$695	$1325

Paradine 486 VESA Local Bus Systems

- Intel 486 CPU
- Zif Socket For Pentium Upgrade
- 256K Cache
- 4MB RAM 70ns (expandable to 32MB)
- 32-Bit VESA LB 2FD/2HD IDE Controller Card
- 245MB Maxtor 15ms IDE Hard Drive
- Standard Technologies 14" Non-Interlaced SVGA .28 Monitor
- Orchid F1280/plus/VLB or Diamond Stealth Pro VLB SVGA Card w/1MB
- Teac 1.2MB & 1.44MB Floppies
- 2 Serial, 1 Parallel, 1 Game I/O Ports
- Focus or Maxiswitch 101-Key Keyboard
- Mid Tower Desk Top Case w/250W Power Supply
- Logitech Dexxa Mouse

486SX-25	486DX-33	486DX-50	486DX2-66
$1315	$1495	$1645	$1695

MICRONICS 60MHz Pentium System

8MB RAM, 15" Monitor, 540MB
PCI Bus System

- MICRONICS Pentium 60MHz Motherboard
- Intel Pentium 60MHz CPU
- 8MB RAM
- PCI IDE Hard Disk and Floppy Controller
- 2 Serial/1 Parallel Ports
- 540MB Maxtor 8.5ms Access Time IDE Hard Drive
- ATI Ultra Pro PCI or Diamond Viper PCII SVGA Card w/2MB
- Viewsonic 15 NI 76Hz 15" 1280x1024 SVGA Monitor
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- Focus or Maxiswitch 101-Key Enhanced Keyboard
- GT-300 Deluxe Full Tower Case w/300W and Dual Fans
- DOS 6.2 with Manuals
- Windows 3.11 w/Manual
- Microsoft Serial Mouse 2.0

$3,645

PARADINE 60MHz Pentium System

8MB RAM, 15" Monitor, 340MB
PCI Bus System

- Pentium 60MHz Motherboard
- 256K Cache (Expandable to 512K)
- Intel Pentium 60MHz CPU
- 8MB RAM
- PCI IDE Hard Disk and Floppy Controller
- 2 Serial/1 Parallel Ports
- 345MB Maxtor SCSI IDE Hard Drive
- Diamond Stealth/24 PCI SVGA Card w/2MB
- Viewsonic 15 NI 76Hz 15" 1280x1024 SVGA Monitor
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- Focus or Maxiswitch 101-Key Enhanced Keyboard
- GT-300 Deluxe Full Tower Case w/300W and Dual Fans
- DOS 6.2 with Manuals
- Windows 3.11 w/Manual
- Microsoft Serial Mouse 2.0

$3,195

Paradine BL3-75 VESA Local Bus Systems

Landmark Ratings Higher than the 486DX2-66!

- IBM 486SLC2-33/66
- Math Coprocessor
- Zif Socket for Pentium Upgrade
- 4MB RAM (expandable to 64)
- Built-in 32-Bit VLB IDE Controller Card
- Built-in I/O w/2 16550 UART, Serial, Parallel and 1 Game Port
- 250MB Western Digital 12ms IDE HD
- Orchid F1280/Plus VLB or Diamond Stealth Pro VLB SVGA Card w/1MB
- Viewsonic 6E Non-Interlaced Super VGA .28 Monitor
- TEAC 1.2MB & 1.44MB Floppies
- 2 Serial, 1 Parallel, 1 Game I/O Ports
- Focus or Maxiswitch 101-Key Keyboard
- Mid Tower or Desktop Case w/250W Power Supply
- Logitech Dexxa Mouse
- DOS 6.2 w/ Manuals

3 YEAR PARTS WARRANTY*

$1745

IBM Made in USA Motherboard Manufactured by

*3 Year Warranty not including Monitor

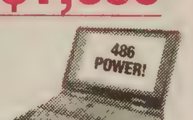
altima NOTEBOOKS

Altima SLC 33 $1,295

- 486SLC-33
- 2MB RAM (Up to 6MB)
- 120MB Hard Drive
- 10" LCD Mono Display

Altima 433 $1,895

- 486DX 33MHz, 8K Cache
- 4MB Ram (Up to 20MB)
- 200MB Hard Drive
- 10" Backlit LCD Display

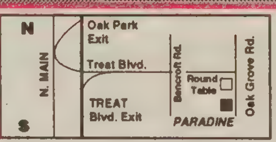


PARADINE 486 PCI Local Bus System

8MB RAM, 14" Monitor 345MB
PCI Bus System

- 486DX PCI Motherboard w/2PCI, 1 ISA/PCI, & 5 ISA Slots
- 256K External Cache (expandable to 512K)
- Intel 486DX CPU w/Built-in Math Coprocessor
- 8MB RAM 70ns
- 2 Serial/1 Parallel
- PCI IDE Controller
- 345MB Maxtor IDE Hard Drive
- Diamond Stealth/24 PCI SVGA Card w/2MB
- Viewsonic 6e NI 72Hz 14" 1024x768 SVGA Monitor
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- Focus or Maxiswitch 101-Key Enhanced Keyboard
- Mid Tower Case w/250W Power Supply
- DOS 6.2 with Manuals
- Windows 3.11 w/Manual
- Microsoft Serial Mouse 2.0 or Logitech Mouseman

486DX-33 $1,995 486DX2-66 $2,195



Note South Bound 680 Customers:
Exit Oak Park left on N. Main,
left onto Treat Blvd. 3 miles from 680

PCS PARADINE

PARADINE
COMPUTER SYSTEMS

Hours:
Mon-Fri 9:30-7:00
Sat 10:00-5:00
No Surcharge

VISA MasterCard

Call the Quality Leader
(510) 825-6068
Fax: (510) 825-5940
BBS: (510) 825-0997
Leasing/Financing Available.
Prices subject to change without notice.
Not responsible for typographical errors.

Oak Grove Plaza Annex • 2958 Treat Blvd., Suite A • Concord, CA 94518

Paradine Peripherals

Excellent Pricing with The Best Service

HARD DRIVES

Maxoptix™

130MB 7120AT 15ms 3.5"	IDE	$175
213MB 7213AT 15ms 3.5"	IDE	$225
245MB 7245AT 15ms 3.5"	IDE	$255
245MB 7245S 15ms 3.5"	SCSI	$275
340MB 7345AT 15ms 3.5"	IDE	$315
340MB 7345S 15ms 3.5"	SCSI	$345
540MB MXT-540 8.5ms 3.5"	IDE	$455
540MB MXT-540S 8.5ms 3.5"	SCSI-2	$595

FUJITSU

520MB M2624T 12ms 3.5"	IDE	$575
520MB M2624A 11ms 3.5"	SCSI-2	$575

5 year warranty

Quantum™

240MB LPS240AT 3.5"	IDE	$255
240MB LPS240S 3.5"	SCSI	$275
270MB LPS270S 3.5"	SCSI	$295
340MB LPS340AT 3.5"	IDE	$325
525MB LPS525AT 3.5"	IDE	$465
525MB LPS525S 3.5"	SCSI	$579
1.2GB PD1225S 3.5"	SCSI-2	$1,095

CONNER

250MB CP30254 12ms 3.5" IDE	$225
340MB CP30344 12ms 3.5" IDE	$295
540MB CP30544 10ms 3.5" IDE	$529
1.0GB CP30540 10ms 3.5" SCSI	$795

WESTERN DIGITAL

250MB WD2250 14ms 3.5"	IDE	$245
340MB WD2340 12ms 3.5"	IDE	$295
420MB WD2420 12ms 3.5"	IDE	$395

3 year warranty

Seagate

1.0GB ST 31200 9ms 3.5" SCSI-2	$875
2.1GB ST 12550 BARRACUDA 9ms 3.5" SCSI-2	$1950

MICROPOLIS®

1.0GB MC2210 10ms 3.5" SCSI-2	$895
1.75GB MC2217 10MS 3.5" SCSI-2	$1195

MONITORS

NEC

3FGe	15"	1024x768	.28	NI	$599
4FGe	15"	1024x768	.28	NI	$710
5FGe	17"	1024x768	.28	NI	$1,125

VIEWSONIC

Viewsonic 6e	14"	1024x768	.28	NI	$295
Viewsonic 15e	15"	1024x768	.28	NI	$395
Viewsonic 15	15"	1280x1024	.28	NI	$475
Viewsonic 17g	17"	1280x1024	.28	NI	$845
Viewsonic 17	17"	1600x1280	.28	NI	$1,045
Viewsonic 20	20"	1600x1280	.28	NI	$1,749
Viewsonic 21	21"	1600x1280	.26	NI	$1,969

NANOA

F340iw	15"	1024x758	.28	NI	$685
F5501	17"	1280x1024	.28	NI	$1,075
F550iw	17"	1280x1024	.28	NI	$1,185

SONY

GDM-17SE	17"	1280x1024	.26	NI	$1,225
GDM-2038	20"	1280x1024	.30	NI	$2,310

MAG

MX15F	15" 1280x1024 .28 NI NEW! MPR!!	$525
MX17F	17" 1280x1024 .28 NI NEW! MPR!!	$945

Miscellaneous

SVGA CARDS

Orchid F1280/Plus	ISA 18-bit	1MB	$159
Orchid F1280/Plus	VLB 32-Bit	1MB	$159
Hercules Dynamite	VLB 32-Bit	2MB	$185
Orchid Celsius	VLB 32-Bit	2MB	$269
Diamond Stealth/24	VLB 32-Bit	1MB	$165
Diamond Speedstar/Pro	ISA 16-Bit	1MB	$139
Diamond Viper	VLB 32-Bit	2.5MB	$395
Number Nine GXe Level 11	VLB 32-Bit	2MB	$395
Standard Tech CL	ISA 16-Bit	1MB	$85
ATI Ultra Pro VLB	VLB 32-Bit	1MB	$279
ATI Ultra Pro VLB	VLB 32-Bit	2MB	$339
Maxtrox MGA	VLB or PCI 32-Bit	2MB	$475
Maxtrox MGAII	VLB or PCI 32-Bit	2MB	$595
Number Nine GXE 12	VLB 32-Bit	2MB	$455
Hercules Graphite	VLB 32-Bit	2MB	$425
Number Nine GXE 12	VLB 32-Bit	3MB	$455
Diamond Stealth/32	PCI 32-Bit	2MB	$275
Diamond Viper PCI	PCI 32-Bit	2MB	$435
Matrox MGA2	VLB or PCI 32-Bit	2MB	$475
Matrox MGA2+	VLB or PCI 32-Bit	2MB	$595

SCSI CONTROLLER CARDS

Adaptec 1542C SCSI		16-Bit ISA	$259
Adaptec 2842		32-Bit VLB	$329
Ultrastor	34F SCSI	32-Bit VESA LB	$259
Bus Logic		32-Bit VESA Local Bus	$259
DTC	3270VL	SCSI 32-Bit VLB	$129
DTC	2270VL	IDE 32-Bit VLB w/2S/1P/1G I/O	$65

MODEMS

US Robotics Sportster 14400/14400 Modem w/Group III Fax

Internal:	$165
External:	$185
Digicom Connection 14.4 Internal Fax/Modem	$129
US Robotics Mac & Fax External Fax/Modem for Macs	$215

MOTHERBOARDS/CPU/MEMORY

Micronics EISA-VESA LB w/256K 486DX-33/dx2-66	$850/1,095
Micronics MX-30 VESA LB w/256K 486DX-33/DX2-66	$595/845
Micronics JX-30 VESA LB w/256K 486DX-33/DX2-66	$695/945
NICE Made USA VLB 256K 486DX-33/DX2-66	$465/675
486 BL3-75 VLB	$725

INTEL 486DX-33 CPU	$290	INTEL 486DX2-66CPU	$495
1x9 (3 Chip) 70ns Simms	$45	4x9 (9Chip) 70ns Simms	$CALL
1x36 70ns 4MB Simms	$CALL	4x3670ns 16MB Simms	$CALL

SYQUEST

SQ555	44MB	20ms	SCSI	Int	$285
SQ5110	88MB	20ms	SCSI	Int	$315
SQ5110C	88/44MB	20ms	SCSI	Int	$399
SQ3105S	105MB	20ms	SCSI	Int	$359
SQ3105A	105MB	20ms	IDE	Int	$389

TAPE BACK-UP

Colorado	DJ10	120	$115
Colorado	DJ20	250	$165
Conner	C250MQ	250 NEW!	$165

HP PRINTERS

LaserJet 4	8ppm	600dpi	$1429
LaserJet 4P	4ppm	600dpi	$995
LaserJet 4L	4ppm	600dpi	$649
DeskJet 550C Color	$589	DeskJet 550 B/W	$295

MULTI-MEDIA

CD-ROM DRIVES

Toshiba XMS3401BTA	200ms	330KB/sc	SCSI	$375
Toshiba External	200ms	330KB/sc	SCSI	$495
Texel 3024	265ms	300KB/sc	SCSI	$319
Mitsumi	380ms	150KB/sc	AT-BUS	$155
Panasonic CR-562-B	320ms	300KB/sc	AT-BUS	$215

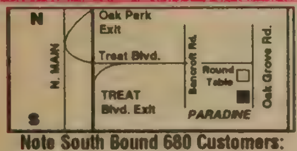
SOUND CARDS

Sound Blaster Pro Deluxe	$125
Sound Blaster Pro 16 Basic	$145
Sound Blaster 16 SCSI-2 ASP	$225
Pro Audio Spectrum 16	$149
Pro Audio Studio 16	$209

MULTI MEDIA KIT

Sound Blaster Pro Deluxe Sound Card w/Panasonic 562-B 300KB/Sec Dual Speed CD-Rom Drive, Amplified Computer Speakers, All Cables and drivers, and Five CD-ROM Titles Including: Software Toolworks Encyclopedia, Mavis Beacon Teaches Typing, Chess Master 3000, World Atlas V3.2, & US Atlas V3.1.

$395 **Fusion CD 16 Kit $549**



Note South Bound 680 Customers:
Exit Oak Park left on North Main,
left onto Treat Blvd 3 Miles from 680

PARADINE
COMPUTER SYSTEMS

Oak Grove Plaza Annex • 2958 Treat Blvd., Suite A • Concord, CA 94518

Hours:
Mon-Fri 9:30-7:00
Sat 10:00-5:00
No Surcharge

Call the Quality Leader
(510) 825-6068
Fax: (510) 825-5940
BBS: (510) 825-0997
Leading/Financing Available.
Prices subject to change without notice.
Not responsible for typographical errors.

BBSes

continued from page 256

mail, SimNet, RGSNet support, and more. Free, full access on first call. Sysop: Gabriel Turk. [Exp. #122.]

Tsoft BBS and Public Access Unix. (415)969-7958. 8-N-1, 5 lines. UNIX accounts on the Internet. info@tsoft.net. Free BBS and $5/month. [Exp. #122.]

Uncle D's Directory. (415)364-3001. 8-N-1, 24 hrs., 1200/2400/9600. Hearing-impaired and educational purposes, game doorways, RimeNet, and more. No fees. [Exp. #121.]

/usr/school/BBS. (415)564-8896. 7-E-1, 24 hrs., 1200/2400. How to access the Internet, C & UNIX classes. If garbage, press space. Sysop: Dennis McMamara. [Exp. #122.]

VidGame BBS. (415)742-6457. 2400/9600/14,400/16,800. Games 7000+ steamy adult GIFs, online games, 3.5+GB space, 1000's of utilities. Sysop: George Hassmer. [Exp. #121.]

Virtual Pleasures BBS. (415)802-0500. Intimate sexual experiences for literate adults. Straight to gay, vanilla to kinky. Women free. [Exp. #121.]

Wetware Diversions Public UNIX. (415)826-0397. 8-N-1, 24 hrs., 1200/2400. Eight lines, full USENET news. Sysop: Eric Swason (editor@wet.UUCP). [Exp. #122.]

Window World BBS. (415)931-0649. 24 hrs. For people who use Windows-type software; info, shareware, chat. Sysop: Bob Cram. [Exp. #121.]

510

& The Temple Of The Screaming Electron. (510)935-5845. 14,400. As seen in *Mondo 2000*. 44MB of unusual text. NIRVANAnet HQ. [Exp. #122.]

8-Bit Apple User Group. (510)294-8052. 24 hrs., 300/1200/2400. Apple II support, email, messages, games, files. Free. Sysop: Noel Anklam. [Exp. #122.]

Activist. (510)532-6248. Lots of conspiracy text files—CIA, KGB, FBI, JFK, RFK, MLK, NSA, ADL, CFR, etc. Sysop: Walter Alter. [Exp. #120.]

Amiga Addicts Anonymous BBS. (510)680-2850. 8-N-1, 24 hrs., 1200/2400/9600/14,400. Amiga files. Free. Sysop: Stanley R. [Exp. #121.]

Bay Area Mega Board. (510)247-8300. 14,400. 16 lines, 26.7GB, chat, GIFs, nets, games, daily international news and magazines. Sysop: [Exp. #122.]

BayB—The Bay Area Baby Board. (510)528-8164. 8-N-1, 14,400. Parents' support network: local events, classifieds, games, education, health, reviews. Mac/PC support. Free. Sysops: Lori Sterling. [Exp. #122.]

Bayline BBS. (510)886-9401. 24 hrs., 14,400. Eight lines, African-American issues, Internet email and USENET, business ads, personals, games, and more. 10 hours free. Sysop: A. Mitchell. [Exp. #122.]

Bay View Graphics BBS. (510)799-6456. Graphics and multimedia files for OS/2, DOS, and Windows. BRRAnet, echo mail. Sysop: Bob Rider. [Exp. #120.]

Bust Out BBS. (510)888-1443. 24 hrs., 14,400. 9 nodes, 11GB, huge msg and file network (many adult). Computer systems and software services. Sysop: Alex J. Riggs. [Exp. #121.]

Callisto Tower BBS. (510)794-9788. 24 hrs., 14,400. LinkUSA, VampNet, TowerNet Hub. Lots of files and registered doors. Free. [Exp. #122.]

Camphor Fountain BBS. (510)547-5741. 8-N-1. Baha'i Network, creative, professional writing, recovery, home schooling, parenting, world religions. Free. Sysop: Linda Martin. [Exp. #121.]

The Cat's Meow. (510)471-0603. 24 hrs., 300/1200/2400/9600/14,400. Supports 60 FidoNet and PCC Net conferences, such as parenting, health, and current events. Free. Sysop: Jim Rawlings. [Exp. #122.]

Caxius BBS. (510)895-6961. 24 hrs., 300/1200/2400/9600/14,400. Over 5,000 files and more. Now supporting FidoNet. We want active users. Free. Sysop: Ed Correia. [Exp. #122.]

Clan Donnachaidh (Robertson Clan). (510)937-6570. 8-N-1, 24 hrs., Genealogy files, 12-step recovery files. PC Board v15.1. Free. Sysop: Don Reid. [Exp. #121.]

Compu-Ace RBBS. (510)794-4029. 300/1200/2400/9600. FidoNet 1:215/739, BAY_LINK member. Files, games, msgs, and more. Sysop: Scott A. Mercer. [Exp. #122.]

For Sale By Owner. (510)689-9992. 14,400. MLS Services online, residential, commercial, land, foreclosures. Two lines. Free. [Exp. #122.]

Gizmonic BBS. (510)889-9341. 8-N-1, 300/1200/2400/9600/14,400. New and growing message base. Flexible. A place to call home. Free. Sysop: Tom Servo. [Exp. #120.]

Gold Diggers BBS. (510)568-7807,,,23,23 (must include ,,,23,23 to get BBS). 24 hrs., 2400/9600/14,400/19,200. IBM, Atari ST, Amiga, Mac, files and messages. Registration $10 per year. Sysop: Harry Goldberg. [Exp. #122.]

The Hobby Shop BBS. (510)357-4125. 8-N-1, 2400/38,400. Fun place to meet others. Over 8GB and growing. Free first call. [Exp. #120.]

Initiative BBS. (510)654-2253. 8-N-1, 300/1200/2400. A political board featuring documents and discussion on the left in the US and the future of socialism worldwide. Sysop: Steve Willett. [Exp. #122.]

Knight Court BBS. (510)946-1049, 376-4688. 2400/9600/14,400. All RIP graphics, Internet, registered tradewares, BreNet. Free. [Exp. #121.]

Legal Advisor BBS. (510)685-1280. 1200/2400/9600/14,400. "How To" articles, tax forms, form contracts, help with legal questions. Free. Sysop: Lowell Richards. [Exp. #121.]

LZ Nightline BBS. (510)273-7830, 273-7831 (2400). For vets and non-vets alike. 50 national ECHO conferences, DOS and Windows files. Free. Sysop: Jon Mankowski. [Exp. #121.]

Metropolis. (510)231-0353. 24 hrs., 2400/9600/14,400/19,200. DOS, Windows, OS/2 files; Apogee Software Creations distribution site; FidoNet. Sysop: Michael Chen. [Exp. #122.]

Motorcycle Happenings BBS. (510)676-7872 1200/2400/9600/14,400. If you own a motorcycle and like to ride, this is the place. Rides, events, clubs—it's all here. Sysop: Mark Cowan. [Exp. #120.]

The New-Ark BBS. (510)796-0947. 24 hrs., 300/1200/2400/9600. Tradewars, running on two CD-ROMs. Reg. required. Sysop: Hiram Wolf. [Exp. #120.]

Northstar BBS. (510)796-5922. 24 hrs., 14,400. 1GB, 486x66, 1000+ files, doors, Gifs, Mods. $36 a year full access. Sysop: [Exp. #121.]

Otoko Empire BBS. (510)754-6521. 24 hrs., 1200/2400. Specializing in gay topics, travel, international pen pals, male GIFs. Sysop: Hiroshi. [Exp. #121.]

The Party Wherehouse BBS. (510)256-9809. 8-N-1, 24 hrs., 14,400. 3.9GB, 25 CDs, live chat, Internet, UUCP. Adult, gay, lesbian, bi users welcome. [Exp. #120.]

The Phantom Zone BBS. (510)538-9586. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Online games, offline mail reader. Free access. Friendly Sysop. [Exp. #121.]

Planet Mirth. (510)786-6560. 14,400. Sinfully silly, Internet news, NIRVANAnet. [Exp. #122.]

Pro-Christ. (510)791-1370. A Christ-centered and bible-based BBS keeping Christians connected. Free. [Exp. #121]

Realitycheck. (510)527-1662. 14,400. Instant access, tech, and text. NIRVANAnet. [Exp. #122.]

The Revolution BBS. (510)451-1206. Huge free BBS devoted to your Mac. Over 1.2GB of Mac files online. Sysop: Mike McGee. [Exp. #121.]

Smorgasbord BBS. (510)440-1125. Fremont, Sunnyvale, North San Jose. 45,000 files, WNET, Internet, prizes. [Exp. #121.]

Ten Dancing BSS. (510)252-1809. 14,400. CD-ROM, Robo/FX, the only BBS with talent. Free. [Exp. #122.]

Tiger Team Buddhist Information Network. (510)268-0102. 24 hrs., 14,400. "America's Buddhist Online Service," learn about Buddhism, find events and practice centers, and meet people with similar interests, four lines. [Exp. #122.]

VA Listings. (510)637-1261. 24 hrs., 300/1200/2400/9600. Multi-line. VA-owned homes for sale. Sysop: David Piersall. [Exp. #122.]

Viper 1 Premium BBS. (510)535-0315, 535-0231. 1200/2400/9600/14,400. Multiline, 9000MB of storage, 5.2GB online, large adult file areas, games, image scanning service available. Sysop: Andre Porter. [Exp. #121.]

The Warped BBS. (510)939-8344. WWIVnet, WWIVlink, IceNet, MicroNet, WarpNet, EliteNet, CD-ROM. Sysop: Sir Real. [Exp. #120.]

Windows Online. (510)736-8343. 17 lines. Publisher of WOL Review. Thousands of Win 3.x and DOS files. 10GB. Free. [Exp. #120.]

Wishing Well BBS. (510)745-7901. 24 hrs., 1200/2400/9600/14,400. 85+ online games, quality files, ANSI Art, conferences, matchmaker, and more! Sysop: MaryLou White [Exp. #121.]

707

The Electronic Grapevine. (707)257-2338. 300/1200/2400/9600/14,400. RIME, USA Today, Boardwatch, 5GB of files, three nodes. Free. Sysop: [Exp. #120.]

The Powder Keg BBS. (707)427-1310. 24 hrs., 300/1200/2400/9600/14,400. Dedicated to preserving our second Amendment right to keep and bear arms. Sysop: Peter Nesbitt. [Exp. #120.]

Recommended BBS. (707)448-2225. 24 hrs., 300/1200/2400. Multiuser games, teleconference, conversational, and technical areas. All welcome. Sysop: Jay C. Parangalan. [Exp. #120.]

Sonoma Online. (707)545-0746. 24 hrs. Seven CDs, 100+ conferences, Internet/UUCP mail. Unique alt. energy files. Free & fee. Sysop: Don Kulha. [Exp. #122.]

Threat Management Institute BBS. (707)935-1713. 8-N-1, 24 hrs., Conferences dealing with issues of personal defense, firearms, law, etc. Schedule of TMI classes. Free. Sysop: Peter Alan Kasler. [Exp. #121.]

916

24th Street Exchange. (916)448-2483. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. 14 CD-ROMs, FidoNet, USA Today, PC catalog online. Since '83. [Exp. #121.]

LEGEND Graphics Online
Nation's One Stop Graphics BBS
VISA MasterCard AMEX
✱ SuperVGA Photo Images
✱ Adult GIF's, MoviePICs
Download Computer Graphics of tomorrow, today!
Modem:
(909) 689-9229
(NO per min./hrly fees)

PACIFIC EXCHANGE BBS
"Your Best On-Line Value"
•Largest Software Library with over 50,000 DOS/Windows Files.
•Over 10,000 Adult Files with FREE Adult VHS Video Offer.
•Satellite Door Connects your modem to our 10 ft. TVRO Dish.
•On-Line News continually updated by USA-Today.
•FREE BBS Startup Kit and Diskettes with each subscription.
•Full Access only $25/yr.-Visa and Mastercard accepted online.
12 Lines Available at 408-946-8561

Warning:
"I'm coming into your modem next month!"
HOT SHOTS

For subscriptions call 1-800-433-5574
8:00 am - 5:00 pm PST
© 1994 HOT SHOTS BBS a division of D.B. Cardiff Co. Fremont, CA 94538
Contains Nudity. Must be 18 or older.

Join 30,000 Colleagues

DB/EXPO 94

The World's Largest
Database, Client/Server,
& Information Technology
Exposition & Conference

See how it all works... at DB/EXPO!
Exposition • May 24-26
Conference • May 23-27
San Francisco
Moscone Convention Center

"I learned more in four hours at DB/EXPO than in months of gathering information"

Glenn Berger,
Data Base Administrator
Hewlett-Packard

Exciting Keynotes

- **Andrew S. Grove,** Intel Corporation
- **Larry Ellison,** Oracle Corporation
- **Philippe Kahn,** Borland International
- **Umang Gupta,** Gupta Corporation
- **Jerre Stead,** NCR Corporation
- **Steve Mills,** IBM Corporation
- **Dr. Robert Epstein,** Sybase
- **Dr. Jim Gray,** DEC
- **Don Haderle,** IBM Corporation
- **Colin White,** Conference Director

9 Answer-Packed Conferences

- Executive DB/EXPO
- Object-Oriented Application Development
- Client/Server Application Development
- Enterprise Client/Server Computing
- Client/Server Systems Management
- Data Warehousing
- Desktop Database Conference
- Interoperability and Open Systems
- Emerging Technologies

Over 700 Dynamic Exhibits

• Amdahl • Apple Computer • Borland
• Computer Associates • DEC • Gupta • IBM
• Information Builders • Intel • Lotus • Microsoft
• NCR • Novell • Oracle • Powersoft • SAP
• Sybase • Uniface • Unisys • and many more!

200 Expert Speakers

In-Depth Seminars

Call today for your FREE brochure!

1-800-2DB-EXPO

Please send me:

☐ My DB/EXPO '94 Conference Brochure
☐ _____ Complimentary Exhibit Passes
☐ Information on becoming an exhibitor

1911

Name: ______ Title: ______
Company: ______
Street: ______ Mail Stop: ______
City: ______ State: ______ Zip: ______
Telephone: ______ Fax: ______

24 HR FAX FORM (415) 966-8934

BLENHEIM

Blenheim NDN, Inc. is a subsidiary of Bruno Blenheim Inc.
444 Castro Street · Suite 1101 · Mountain View · California 94041
Tel: (415) 966-8440 · Fax: (415) 966-8934

USER GROUPS

ADOBE

Systems Adobe Technology Exchange. Meetings: 3rd Thurs., 6:30 pm, Ultradata Corp., 5020 Franklin Dr., Pleasanton. Call: (510)417-4185. [Exp. #122.]

AMIGA

AGA. Meetings: 7th of each month, downtown San Francisco. Graphics user group for 3-D/2-D, animators, multimedia, and videographers. Call: Ollie, (415)863-8792. [Exp. #123]

AUM—Amiga Users Of Marin. Meetings: 3rd Wed., 7:30 pm, College of Marin Science Center, Rm. 191, Kentfield. Desktop Video SIG, Rm. 192, 6:00 pm. Call: (415)479-6717. BBS: (415)485-5895. [Exp. #121.]

AWEST Amiga Users In SF. Meetings: 1st Thurs., 7:00 pm, Laguna Honda School, Conference Rm, 1350 7th Ave., San Francisco. Call: (415)584-8406; BBS: (415)824-8774. [Exp. #121.]

FAUG—First Amiga User Group. Meetings: 1st Tues., 7:30 pm, HT Electronics, 275 N. Matilda Ave., Sunnyvale. Q &A, new product demos, public domain software. Call: Mike Fisher, (415)855-9816; BBS: (415)341-7566; Usenet: mikef@vid.hp.com. [Exp. #122.]

RE—AMIGA Redwood Empire Amiga User Group. Meetings: 2nd Tues., 7:30 pm, Rohert Park Jr. HS, RM. C-5, 7165 Burton Ave., Rohnert Park. Call: (707)523-9978. BBS: (707)795-2717. [Exp. #120.]

APPLE

PAUG—Peninsula Apple User Group. Meetings: 3rd Thurs., 7:00 pm, Ampex Cafeteria, 411 Broadway, Redwood City. Beginners and advanced, question and answer, new product demos, public domain software. Call: (415)367-8657. [Exp. #123.]

TVAUG—Tri-Valley Apple II User Group. Meetings: 1st Wed., 7:00 pm, Glendale Federal Bank, 3101 Crow Canyon Rd., San Ramon. Software demonstrations, raffle, public domain software, question and answer session. Call: Jerry Carleton, (510)828-0959. [Exp. #120.]

AT&T

AT&T Computer Users Group. Meetings: 1st Wed., 7:00 pm, 50 Fremont St., 40th Floor—near 1st and Mission, San Francisco. Refreshments, technical support, and informal discussions. Also, Sunnyvale DOS and UNIX groups. Call: Jim Lansing, (415)885-6631. [Exp. #121.]

AT&T UNIX Users Group-South Bay. Meetings: 3rd Wed., 7:00 pm, PM new user education. Call: Thad Floryan, (415)961-5157 or USNET: thad.cup.portal.com. [Exp. # 121.]

ATARI

Bay Area Atari Users Group. Meetings: 1st Mon., 7:30 pm, Agnews Aud., 2nd fl., San Jose. Write: c/o 3691 Eastwood Cir., Santa Clara 95054. Call: Steven Lee, (408)988-3878. BBS: (408)986-0215. [Exp. #122.]

San Leandro Computer Club. Meetings: 1st Tues., 8:00 pm. San Leandro Public Library, 300 Estudillo Ave. 8/16/32-bit, SIGs. Call: Jim, (510)872-1244. [Exp. #122.]

STace—Atari Computer Enthusiasts. Meetings: 3rd Thurs., 7:30 pm. Pac Tel Bldg., 3260 Sebastopol Rd., Santa Rosa. Call: Kim Remick, (707)795-8173. [Exp. #120.]

CAD

Berkeley Macintosh CAD User Group. Meetings: last Tues., 7:00 pm, San Francisco Apple office, 10th Floor, One Bush Street, San Francisco. Call: Steve Lukrofka, (415)665-1776. [Exp. #120.]

Contra Costa AutoCAD User's Group. Meetings: 2nd Sat., 1:00 pm, 1333 Willow Pass Rd., Suite 203, Concord. All CAD users welcome. Call: (510)687-5666. [Exp. #120.]

Marin AutoCAD Users Group. Meetings: 1st Thurs., 6:30 pm, Eldeon Beck Associates, 171 Carlos Dr., San Rafael. Call: Gini Bollinger, (415)491-4722. [Exp. #120.]

Russian AutoCAD Users Of America. Meetings: 2nd Wed., 6:00 pm, Rosenberg School, 5133 Geary Blvd., San Francisco. Call: Michael Belilovsky, (415)387-7764. [Exp. #120.]

SF AutoCAD User Group. Meetings: 1st Mon. Call: Mark Williamson, (415)383-4060. [Exp. #121.]

Sonoma County AutoCAD Users Group. Meetings: 3rd Tues., Piner High School, Rm. H83, Santa Rosa. Call: Bud Schroeder, (707)987-3108. [Exp. #120.]

COMMODORE

C=HUG (Commodore Hayward User Group). Meetings: 2nd Sat., 2:00 pm, Palma Ceia Park. (510)531-3734. [Exp. #123.]

CWEST Commodore 64/128. Meetings: 2nd. Wed., 6:30–8:45 pm, Excelsior Library, 4400 Mission, San Francisco. San Francisco. Call: (415)626-9946. [Exp. #122.]

DESKTOP PUBLISHING

BMUG Desktop Publishing And Design Sig. Meetings: 3rd Tuesday, 6:30 pm, SF Police Academy, 350 Amber St., San Francisco. Call: Les Cowan, (415)641-6033. [Exp. #122.]

Corel Ventura/Ventura Publishing User Group (Sam Mateo County VPUG). Meetings: 3rd or 4th Mon. (Sept.–May), 6:45 pm, 1800 Rollins Rd., Rm. 14, Burlingame. Call: Elinor Cruze, (415)366-5317. [Exp. #125.]

IBM AND COMPATIBLES

Berkeley PC User Group. Meetings: 2nd Tues., 7:00 pm, Winners Circle Systems, 2618 Telegraph Ave., Berkeley. No charge, newsletter $24/yr, free PD library, beginner SIG, GeoEnsemble SIG. Call: Mel Mann, (510)526-4033. [Exp. #122.]

EastBay FOG. Meetings: 2nd Wed., 6:30 pm, Episcopal Church of St. John-in-Montclair, 1707 Gouldin Rd., Montclair. All microcomputers, MS-DOS, CP/M. Call: (510)653-2627. [Exp. #125.]

Fremont PC User Group. Meeting dates vary. Fremont Central Library. Topics: latest in public domain CD-ROMS & how to install a CD-ROM drive. Call: (510)795-4286 ext. 7. BBS: (415)652-1736. [Exp. #120.]

Golden Gate Computer Society. Meetings: 4th Mon., 7:00 pm, San Rafael Community Center, 618 B St., San Rafael. Free intro to computers class at 6:00 pm. Call: (415)927-2909. [Exp. #121.]

Napa Valley PC Users Group. Meetings: 2nd Wed., 7:30 pm. Call: Lee Schwab (707)257-2675. [Exp. # 123.]

Peninsula Computer Club. Meetings: 2nd Thurs., 7:00 pm, Social Room, 222 Laurel St., San Carlos. DOS and CP/M libraries. Call: Larry Welling, (415)593-9981. BBS (415)571-9259. [Exp. #120.]

San Francisco Business Computers. Meetings: 4th Tues., 5:30 pm. 110 Pacific #153, San Francisco. For those who use computers in business. Visitors $5. Call: Jordan Rosenberg, (415)788-5338. MCI Mail: 425-1545. [Exp. #123.]

San Francisco Computer Society. Meetings: 1st Mon., 7:00 pm, Presbyterian Church, 1329 7th Ave., San Francisco. Call: Bob Forsberg, (415)885-6202. [Exp. #123.]

San Francisco PC Users Group. Meetings: 3rd Tues., 6:15 pm SIGs, 7:30 pm General Meeting. Fort Mason, Bldg. A. Call: (415)979-5879. [Exp. #122]

South Bay WordPerfect User Group. Meetings: Monthly, dates vary. Saratoga Community Library. Free. Call: Scott Maiden, (408)253-4591. [Exp. #122.]

Stanford Palo Alto Area PC User Group. Meetings: Last Wed., 7:30 pm, Varian Aud., 3075 Hansen Way., Palo Alto. Call: (415)329-8252. [Exp. #124.]

Terminal Transfer User Group. For Info, send S.A.S.E to Dave Blair, 2440 16th St. #171, San Francisco, 94103. Or Call: (415)431-7621. [Exp. #123.]

LAPTOPS HPX HP

Laptops & Handhelds. Meetings: 2nd Sat., 10:30 am, Sunnyvale. Call: Michael Felsenstein, (415)564-8279. [Exp. #123.]

LEGAL

SF Bar Assoc. WordPerfect User Group. Meetings: 3rd Wed., odd-numbered months, noon, SF Bar Assoc. Boardroom, 7th fl., 685 Market St. Brown bag meetings. Call: (415)421-5650. [Exp. #123.]

MACINTOSH

A32 Macintosh User Group. Meetings: 2nd Sat., 10:00 am, Sunnyvale Community Center, 550 Remington Ave., Sunnyvale. Question and answer, guest speakers, disks-of-the-month, bi-monthly newsletter, $35 annual dues. Call: (408)263-0398. [Exp. #122.]

Diablo Valley Macintosh User Group (DVMUG). Meetings: 3rd Tues., 7:00 pm, Bancroft School, multi-purpose room, 2200 Parish Dr., Walnut Creek. Get together with Mac and Performa users. Enjoyable SIG meetings. Call: Connie, (510)827-5775. [Exp. #122.]

Gay Macintosh User Group. Meetings: 4th Mon., 7:00 pm, New Conservatory Theatre, 25 Van Ness, San Francisco. GMUG is a nonprofit group open to everyone. Call: (415)552-GMUG. [Exp. #121.]

International Macintosh Users Group (IMUG). Meetings: 3rd Thurs., 7:00 pm, Apple Computer, R&D Campus, 1 Infinite Loop, Cupertino. A forum for people using Macintosh computers in different languages. Call: Roger Sherman, (415)859-5146. [Exp. #125.]

Macintosh SIG. Meetings: 3rd Tues., 7:00 pm, Apple Cafeteria, City Center 4, De Anza and Rodrigues, Cupertino. Sponsored by Software Entrepreneurs' Forum. Call: Jeff Cherniss, (408)356-9901, or Barbara Cass (408)854-7219. [Exp. #125.]

PAUG—Peninsula Apple User Group. Meetings: 3rd Thurs., 7:00 pm, Ampex Cafeteria, 411 Broadway, Redwood City. Beginners and advanced, question and answer, new product demos, public domain software. Call: Roger Laker, (415)367-8657. [Exp. #123.]

SPC Apple User Group. Meetings: 2nd Tues., 7:30 pm, Fremont Main Public Library. The Society for Prevention of Cruelty to Apple Computers Users Group supports all Apple and Macintosh computers. Call: Dean Fearn, (510)881-9160. [Exp. #125.]

MARKETING

Marketing SIG. Meetings: 4th Thurs., 7:00 pm, Cubberley Community Center, Rm. H-1, 400 Middlefield Rd., Palo Alto. SIG of Software Entrepreneurs' Forum. Call: Bill Ryan, (415)615-7906. [Exp. #122.]

MULTIMEDIA

Design SIG. Meetings: 3rd Tues., 6:00 pm. For independent businesspeople in graphic arts and word processing. Topics related to running own business. Call: Bill Brent, (415)282-7368. [Exp. #120.]

Macromedia User Forum. Meetings: 1st Wed., 7:00 pm, 600 Townsend, at 7th St., San Francisco. Authoring, 3-D, content, and tools. Call: (415)252-2295. [Exp. #120.]

North Bay Multimedia Association (NBMA). Meetings: 3rd Thurs., 7:00 pm, Semantic, Novato. Call: Lee Callister, (415)883-0449. [Exp. #122.]

SEF Multimedia SIG. Meetings: 1st Thurs., 7:00 pm, Center for Software Development, 111 W. St. John Street, Suite 200, Downtown San Jose. SIG of Software Entrepreneurs' Forum. Call: Ralph Gilman, (408)746-0551. [Exp. #123.]

NETWORKING

NetSIG. Meetings: 4th Tues., 7:00 pm, Novell Sunnyvale. Networking SIG for Software Developers. SEF group. Call: Skip Addison, (408)283-3545. [Exp. #122.]

NOVELL

Silicon Valley Novell User Group. Meetings: 3rd Wed., 6:30 pm, Sundowner Inn, 504 Ross Drive. Call: Stephanie or Beth, (408)522-8690. BBS: (408)739-8753. [Exp. #122.]

OS/2

OS/2 Bay Area User Group. Meetings: 4th Mon., 7:00 pm. For anyone interested in OS/2. Presentations, product demos, questions and answers. Call: (415)755-3124. [Exp. #122.]

PARADOX

Bay Area Paradox User Group (bapals). Meetings: 4th Tues., except June and July, 4th Wed., 4:30 pm, McKesson Bldg., 1 Post St., 18th floor, San Francisco. Call: (415)995-4688. [Exp. #122]

PEN COMPUTING

Pen Software SIG. Meetings: 4th Wed., 7:00 pm, Cubberley Community Center, Rm. H-1, 400 Middlefield Rd., Palo Alto. SIG of Software Entrepreneurs' Forum. Call: Bill McAlpine, (415)348-2257. [Exp. #119.]

POINT OF SALE

Point Of Sale User Group. Meetings: 1st and 3rd Sat., 2025 E. 12th St., Oakland. Call: (510)216-9335. [Exp. #125].

PROGRAMMING LANGUAGES

North Bay Forth Interest Group. Meetings: 2nd Sat., 1:00 pm, 2055 Center St., Berkeley. Tutorial at noon. Call: Leonard Morgenstern, (510)376-5241. [Exp. #122.]

SEF Visual Basic SIG. Meetings: 2nd Thurs., 7:00 pm, Cubberley Comm. Ctr., Rm. H-1, 4000 Middlefield, Palo Alto. Call: Allan Colby, (415)851-4657. [Exp. #122.]

Silicon Valley Forth Interest Group. Meetings: 4th Sat., 10:00–5:00 pm, Applied Biosystems, Inc., Conference Room A/B, 230 Lincoln Centre Dr., Foster City. Call: C.H. Ting, (415)571-7639. [Exp. #122.]

Visual BASIC SIG. Meetings: 2nd Thurs., 7:00 pm, Cubberley Community Center, 4000 Middlefield Rd., Rm. H-1, Palo Alto. Sponsored by Software Entrepreneurs' Forum. Call: Allan Colby, (415)851-4567. [Exp. #122.]

Visual C++ Bay Area Developer's Group. Meetings: 3rd Wed., 6:00 pm, Berkeley. For agendas, location, and RSVP, Call: (510)254-9700, ext. 490. [Exp. #123.]

TEXAS INSTRUMENTS

TI-99/4A. Meetings: 2nd Sat., Oakland. Call: Fred, (510)530-8335. [Exp. #122.]

UNIX/XENIX

N. California UNIX SIG. Meetings: dates vary. UNIX, XENIX, LINUX, Coherent. Beginners welcome. Call: Randy Just, (707)769-1648. BBS: (707)754-1431. Email: rjust@justcomp.com. [Exp. #120.]

VIDEO TOASTER

Video Toaster User Group. Meetings: Last Thurs., 7:30 pm, HT Electronics, 275 N. Mathilda Ave., Sunnyvale. Special guests, equipment demos, hands-on workshops, plus info/tips on new System 3.0. Call: Andrew Timmins, (408)243-9233 (eve). [Exp. #120]

WINDOWS

BAWOW—Bay Area "Windows on Wall Street" User Group. For people interested in actively following the stock market using this revolutionary new software. Call: Dave Ittner, (510)796-4528. [Exp. #122.]

Windows SIG South. Meetings: 1st Wed., 6:30 pm, Cubberley Community Center, Room H-1, 4000 Middlefield Rd., Palo Alto. Software Entrepreneurs' Forum. $10 for nonmembers. Call: Barbara Cass, (415)854-7219. [Exp. #123.]

ASSOCIATIONS

American Association For Artifical Intelligence Association. Meetings: Individuals interested in learning about the use and application of AI. Call: (415)328-3123, fax: (415)321-4457, email: membership@aaai.org. [Exp. #126.]

The Association For Customer Support Professionals (ACSP). Meetings: Quarterly. Dedicated to the deveopment and furtherance of customer support as a distinct profession, to the growth of the support community, and to the improvement of support service. Call: (510)865-4515. Email: tao@well.sf.ca.us or 71333,2116@Compuserve.com. [Exp. #123.]

Association For Women In Computing. Meetings: 1st Wed., 5:30 pm, Sinbad's Restuarant, Pier 2, San Francisco Embarcadero. $15 members, $20 guests. Call: (415)979-8450. [Exp. #126.]

Association Of Information Systems Professionals (AISP). Write: 922 Weddell Ct., Sunnyvale, CA 94090. Forums, support, network for IS Professionals. Many SIGs. Call: Al Normantas, (408)745-7600. Fax: (408)745-0740. [Exp. #122.]

Black Data Processing Association, Silicon Valley Chapter. Meetings: 4th Thursday, 6:30 pm, Amdahl Corp., Bldg. H, 1240 E. Arques Ave., Sunnyvale. National network of DP professionals, educators, students, and vendor reps. Call: Willie Mackey, (408)280-7624. [Exp. #122.]

Computer Professionals For Social Responsibility. Meetings: Last Sun., 2:00 pm, BMUG Offices, 2066 Center St., Berkeley. Call: (510)987-0567. Email: kec@stubbs.ucop.edu. [Exp. #123.]

Computer Software Industry Association. CSIA monitors all state legislation which affects the computer software industry and some federal issues. Call: (415)948-9192. [Exp. #119.]

IEEE Computer Society, San Francisco Chapter. Meetings: alternating Weds., 7:30 pm, SF State. Call: (415)905-4400. [Exp. #123.]

Independent Computer Consultants Association, Northern California Chapter. Meetings: 2nd Wed., 6:00 pm, Gallaria Parc Hotel, 185 Sutter St., San Francisco. Open discussion, questions and answers. Call: (415)978-9416. [Exp. #125.]

National Association Of Professional Organizers (NAPO). Meetings: 2nd Wed., 6:30 pm, Westin San Francisco Airport Hotel in Milbrae. The cost for guests who pre-register is $12; at the door, $15. Call: (415)461-3537. [Exp. #121.]

North Bay Systems Professionals. Meetings: 3rd Wed., 6:00 pm networking, 7:00 pm dinner, 8:00 pm speaker. Embassy Suites Hotel and Conference Center, 101 McInnis Parkway. NBSP provides a forum for systems professionals to grow and to benefit from a network of other like professionals. Call: (415)721-4409. [Exp. #125.]

San Francisco Computer Society. Meetings: 4th Mon., 7:00 pm, Presbyterian Church, 1329 7th Ave., San Francisco. Call: Bob Forsberg, (415)885-6206. [Exp. #121.]

San Francisco Robotics Society Of America. Meetings: 1st Wed., 8:00 pm, Exploratorium, San Francisco. Free. Call: Brad Smallridge, (415)550-0588. [Exp. #121.]

Society For Technical Communication, Berkeley Chapter. Meetings: 2nd Wed., 6:30 pm dinner, 7:45 pm program, Upstairs at Yenching Restaurant, 2017 Shattuck Ave., Berkeley. Different speaker every month. Call: (510)466-5464. [Exp# 121.]

Society For Technical Communication, East Bay Chapter. Meetings: 1st Thursday. Red Lobster in Dublin. A nonprofit organization for writers, editors, managers, educators, students, and graphic artists. Call: (510)831-1098. [Exp. #122.]

Society For Technical Communication, San Francisco Chapter. Meetings: 3rd Wed., 6:00, program at 7:00 pm. Stagecoach Resturant, 44 Montgomery St., San Francisco. For technical writers, editors, and other technical communicators. Some meetings are dinner meetings, for which reservatins are necessary. Call: (415)985-7121. [Exp. #120.]

Society For Technical Communication, Silicon Valley Chapter. Meetings: 4th Thurs. 5:30 pm cocktails, 6:30 pm dinner, 7:15 dessert. Sunnyvale Hilton, 1250 Lakeside Drive (off Lawrence Expressway at 101). Guest speakers, special interest groups, networking, job listings, newsletter. Call: (408)578-0796. [Exp. #120.]

Software Entrepreneurs' Forum. 3rd Wed., 6:30 pm, Elk's Lodge, 4249 El Camono, Palo Alto. Industry association dedicated to software developers and entrepreneurs, offering information and education on all facets of the software industry. Call: Information, (415)854-7219; reservations, (415)965-9003. [Exp. #123.]

Software Process Improvement Network. Meetings: 3rd. Wed., San Ramon. For people interested in software process improvement, including theory and practical experience. Free. Call: Janet Deeney, (510)823-2348. Email: jmdeene@pbl.pacbell.com. [Exp. #123.]

United Sysops Association (U.S.A.). Meetings: 2nd Wed, 7:30 pm, call for location. Call: Beth Hall, (408)522-8690. [Exp. #123].

Amateur Action "Live"
ONE•ON•ONE HOT TALK 24hrs./day
1♥800♥469♥7588 $3.99/min. 18 yrs. & older

CALIFORNIA ONLINE!
22 Local Lines
(415) 331-4081

- Internet E-Mail
- Usenet Newsgroups (1000+)
- CALIFORNIA CHATLINE!
- 6.3 Gigs Virus Free Files
- National and Local Chatting
- Business Accounts
- Custom BBS Services
- Bi-Weekly Seminars
- Friendly Adult Users
- Monthly Get-Togethers
- Interactive Games
- Online Shopping
- Private Ports
- Free Trial Memberships
- Automated Mortgage Loan Application Online!
- Low Cost Network #'s Available
- Satellite Feeds Early '94
- *Also: 415.834.9117*
- *Also: 510.232.4965*

Amateur Action BBS

World's Largest Collection of Amateur Adult GIF Files.

Over 19,000 GIFs on line.

New Member Bonus!!

Receive a **FREE** Amateur Video!!

(408) 263-3393

(408) 263-1868

40 High Speed Lines

US Robotics Dual Standard Modems on all 40 lines

Easy Connection! No Waiting!

V.32 / 14400 HST

VISA DISCOVER MasterCard

When you see this . . . think value

If you want to reach new markets, call us!

INFORMATION HIGHWAY
(510)676-5359 MODEM

A Service of Port Chicago's Loading Dock

Call our service with your computer and modem. Or phone, or fax us, and we will send some information.

We serve individuals, businesses, professionals, clubs, associations and even folks without computers.

We are a new, free access, leading edge, shopping, information service . . . and we mean business.

If you want to reach new markets, call us. We're putting value online for your profit, enjoyment, and education.

Port Chicago's Loading Dock, Inc.
California's Online Shopping Service
P.O. Box 23438, Pleasant Hill, CA 94523
Modem: 510-676-5359
Phone: 510-932-8956
Fax: 510-937-5039

Songtech International, Inc.
Tel: 510-770-9051 Fax: 510-770-9060

POWERFUL PORTABLES!

KINGTECH
LCD PORTABLE
- 640 x 480 Supertwist LCD Screen w/ Built-in Backlight
- Run VGA/EGA/CGA/MGA Mode
- 200 Watt 110/220 Auto Switch P/S
- Detachable 89-Key Keyboard
- Two 5.25" FDD, One 3.5" HDD
- Six Expansion Slots
- Weight: 16 lbs.
- Dimensions: 16" (W) x 9" (H) x 7" (D)
- Case Only

LCD VGA $795
COLOR LCD AVAILABLE

GAS PLASMA PORTABLE
- High Resolution Gas Plasma Display
- 640 x 400 Pixel Graphics Display CGA/VGA
- 80 Characters x 25 Lines
- 9.25" x 6"
- Detachable 102-Key Keyboard
- 110/220 VAC Auto Switching
- RS-232 Serial Port
- Parallel Printer Port
- External Monitor Port
- Soft Carrying Bag
- Case Only

$845 LCD VGA Paper White
$1295 VGA + 2 Gas Plasma
COLOR LCD AVAILABLE
CRT COLOR AVAILABLE

TOOLS
FOR DEVELOPMENT AND PRODUCTION
- EXPRO-60: PC-Based Universal Programmer and Tester
- EXPRO-80: PC-Based Universal Programmer and Tester, Enhance of Expro-60
- ADAPTORS: For Expro-60 and Expro-80
- NICE-51: PC-Based 8051 IN-Circuit Emulator
- EML-2M: PC-Based Eprom Emulator
- PICKER-20 Handy Tester
- RU201/T UV Eprom Eraser
- EW-901BN/904BN: PC-Based E(E) Prom Programmer
- JET-01 High Speed Portable Programmer
- EW-701/704/708: PC-Based E(E) Prom Programmer Card
- HEP-101/104/108: PC-Based 2M Bit E(E) Prom Programmer
- CON-1000 Control Unit
- HEP-801/804/808: PC-Based High-Speed 8M Bit E(E) Prom Programmer

Call For More Information

COMPLETE SYSTEMS
486DX2-66 MHz VESA .... CALL
486-50 MHz ISA/VESA .... CALL
486-50 MHz w/256K Cache .... CALL
486-33 MHz VESA Local Bus .... CALL
486-33 MHz w/256K Cache .... CALL
386-40 MHz w/256K Cache .... CALL
486SX-25 MHz .... CALL
486SLC2-50 .... CALL
486DLC-40 .... CALL
486SLC2-66 VESA/ISA .... CALL

SYSTEM CONFIGURATIONS:
- High Quality Motherboard
- 4 MB RAM on Board
- 1.2 & 1.44 MB Floppy Drive
- SVGA Monitor .28mm DP
- 210MB Hard Drive
- 1MB VGA Display Card
- Mini-Tower Case w/200W PS
- Enhanced 101 Keyboard
- Mouse
- IDE I/O (2S/P/G) Controller

MULTIMEDIA PACKAGES
Panasonic CD-ROM $189
Stereo Speakers 7W 35
Sound Blaster Pro 16 Bit 165
CD Titles .... CALL
Mitsumi CD-ROM Dual Speed 180
Toshiba CD-ROM SCSI 340
Stereo Speakers 80W 65
CALL FOR OTHER MULTIMEDIA PRODUCTS NOT LISTED

VIDEO CARDS & MONITORS
VESA LB SVGA 1 MB $95
Diamond Stealth 24 SVGA 1MB 150
Super VGA 1024x768 0.28 230
Trident Super VGA 16 Bit, 1MB 55
Impression 14" Non-Interlace 245
Impression 14" Super VGA 230

HARD DISK SPECIALS
Conner 80MB 159
Conner 210MB 205
Conner 340MB 250
Quantum 270MB 220
Quantum 540MB 425
IBM 170MB 179
IBM 250MB 210
Western Digital 210MB 210
340MB 259
420MB 325

MATH CO & MEMORY
80387SX-33 .... $55
80387DX-40 59
256K SIMM Module .... CALL
1MB SIMM Module .... CALL
4MB SIMM Module .... CALL
386, 486 CPU .... IN STOCK
Cooling Fan for CPU 15

KEYBOARDS
Enhanced 101 Click (baby) .. $25
Keytronics 101 35

FLOPPY DRIVES
Teac 5 1/4" 1.2MB FDD $49
Teac 3 1/2" 1.44MB FDD 45
Teac 1.2 & 1.44 Combo Drive 110

COMPUTER CASES
Slide-In Case w/200W PS $55
Mini-Tower w/200W PS 50
Med-Tower w/200W PS 69
Full-Tower w/230W PS 89

POWER SUPPLY
SCSI Ext. Box w/Power Supply 30W $75
200W AT 39
230W XT/AT 45

CONTROLLER CARDS
Adaptec 1542CK SCSI $245
IDE I/O High Speed (16550) .. 59
IDE I/O 4FD/4HD 39
IDE I/O 4FD/2HD (2.88FD) 39
High Speed AT I/O (2S/P/G) .. 35
16 Bit Ethernet Card 2000B ... 50

MOTHERBOARDS
486DX2/66 VESA ISA $560
486DX/50 VESA ISA 500
486DX/33 VESA ISA 360
486SX33/25 ISA 245/195
486DLC/40 ISA 165
386DX/40 ISA 125
386SX/33 ISA 85

ACCESSORIES
Microsoft (Serial) $39
Microsoft (Bus) 59
MS-DOS 6.2 45
Microsoft Windows V3.1 45

MODEM/FAX
2400 bps $30
Fax/Modem 2400/9600 40
High Speed 14400/14400 Fax/Modem 120

AND MUCH MORE...
CALL FOR BEST PRICES
DEALER INQUIRIES WELCOME

44061 So. Grimmer Blvd.
Fremont, CA 94538

PC/XT/AT are registered trademarks of International Business Machines, Inc.
Prices subject to change w/o notice.
Not responsible for typographic errors.

Continued from page 210

time lag before a mouse click is recognized. Just hold down the mouse button till the game responds. The artwork is very nice, with the occasional animation sequence. Music and sound effects are good, but convey no vital information.

As an adventure game, Companions suffers from a common adventure flaw. The game is too linear. You can't get to problem "B" until you've solved problem "A." Given that the story is trying to parallel a novel, this is nearly forgivable. Past that, I would categorize the game as average for game play and above average for story and dialog.

Postscript to Xanth fans: some problems use classic Xanthian solutions—you'll love it! (Legend Entertainment Co., PO Box 10810, 14200 Park Meadow Dr., Chantilly, VA 22021. 703/222-8500)

MERCHANT PRINCE

Designed By: Several Dudes Holistic Gaming
Published By: Quantum Quality Productions
For: IBM PC compatible (1MB RAM, DOS 3.3, hard drive, VGA, mouse, Adlib/SoundBlaster, modem play)
List Price: $49.99
Reviewed By: Fred Haslam

MERCHANT PRINCE

Exploration, trade, conflict. These are the primary elements of Pre-Renaissance Italy. Sail around the horn of Africa, purchase spices in far-off Cathay, and build roads from Cairo to Timbuktu. Hire guards and mercenaries to fight off pirates and brigands. Then send your money back to Venice to invest in your political career. Buy Cardinals, bribe Senators, hire Assassins—it all leads to one goal: political domination.

The exploration in Merchant Prince is great fun. You inherit an "accurate" map of the world from your deceased uncle. The world is laid out in parchment colors with medieval artwork for cities, mountains, and sea serpents. When you move your ships and caravans, the parchment map is replaced with 16-color graphics showing you the true coastlines and cities. As you move farther from Venice, this map grows increasingly less accurate—until you are exploring the coast of India where a desert is indicated.

The interface for Merchant Prince is mostly intuitive. I was able to play immediately without reference to the manual. Unfortunately, a lot of the advanced activities require you to study the manual closely. The artwork, except for the opening screen, is mediocre and 16-color. Sound and music are practically nonexistent.

Merchant Prince is fun, but lacks a finale. At the start of the game you commit to a certain number of turns. You can accomplish all goals in the game—become Mayor, Pope, explore the entire world—but play continues until those turns run out. Having to wait until turn one hundred to get a percentile rating is an anticlimactic conclusion to what is overall a decent game. (Quantum Quality Productions, 495 Hwy. 202, Flemington, NJ 08822. 908/788-2799)

Book Reviews

DOS 6 INSIDER

Written By: Ron Pronk and Keith Weiskampf
Published By: Wiley Publishers
List Price: $26.95
Reviewed By: Lenny Bailes

This is a book for graduates of the *DOS for Dummies/Voo-Doo* variety of self-help. It is written for DOS users who would like a practical exposition of what they can really customize and tweak in Microsoft's DOS 6. The book is cogently organized, with task-oriented section headings that cover utility tips, user-tutorials, and solutions to common system problems. *Insider* serves as a primer for DOS memory management, and hardware and software troubleshooting. A lengthy section is devoted to solving problems that arise when using the DoubleSpace disk compression utility. The book was published before the improved, DOS 6.2 DoubleSpace appeared, but notwithstanding this, the problem-solving procedures are still useful and applicable. There is a wealth of undocumented information on file recovery and system troubleshooting that the average user would glean only from calls to the Microsoft technical support line.

The enhanced batch file commands and system utilities of DOS 6 are introduced and explained along with a series of productivity tips. The book offers a technically sophisticated, but readable set of general tutorials on the Microsoft backup and antivirus utilities, DOSShell, and MemMaker. The detailed information that *Insider* provides on memory management is not typically found in books of this type.

The two coauthors of this book have provided a valuable reference tool for MIS types who understand DOS basics and need to maintain user-workstations on a day-in, day-out basis. The details you want to know about putting DOS through its paces are explained in greater depth and clarity than you'll find in Microsoft's own reference manual. A revised edition covering the changes implemented in DOS 6.2 would make this book a "must-have." (Wiley Publishers, 605 Third Ave., New York, NY 10158)

DOUBLESPACE—AN ILLUSTRATED TUTORIAL

Written By: Dan Gookin
Published By: Windcrest/McGraw-Hill
List Price: $15.95
Reviewed By: Lenny Bailes

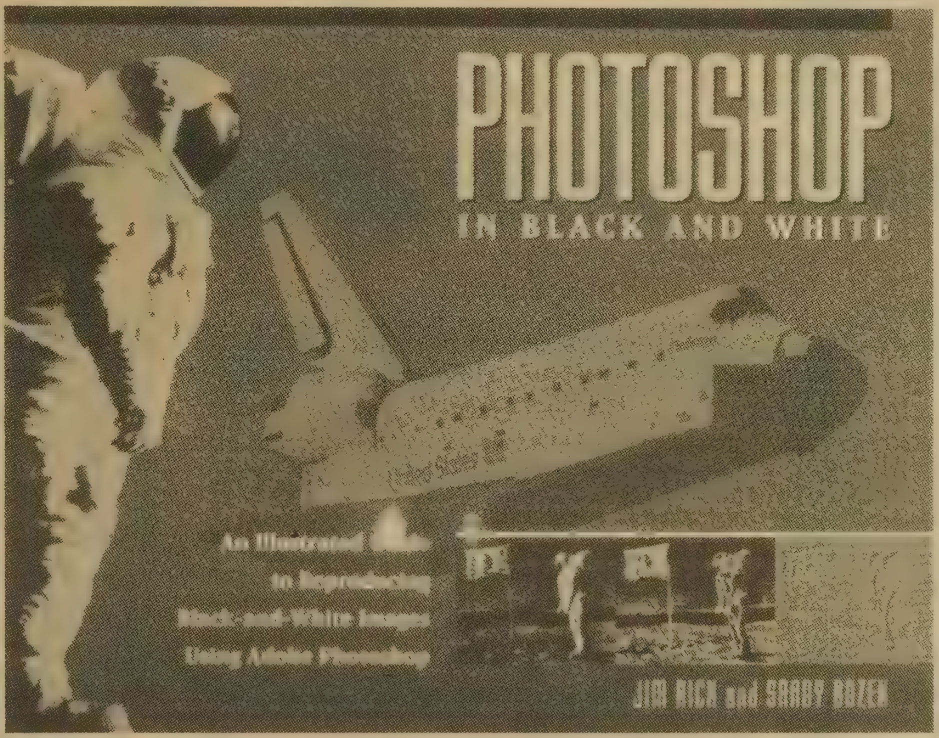
This slim volume by the author of *DOS for Dummies* recapitulates the basic Microsoft documentation on DoubleSpace in plain language for the novice user. No great secrets are revealed here, but if you're a right-brained person who has difficulty following the Microsoft mindset, you'll appreciate the simple analogies and pictures presented in this volume.

The two or three features that Microsoft added to the DOS 6.2 version of DoubleSpace will be transparent to most people who've struggled with the original version. It's the undecided novice with "disk compression anxieties" who will benefit by reading this tutorial. The book offers an easy-to-read overview of disk compression: theory and practice. Gookin steps you through the standard procedure involved in a DoubleSpace installation, explaining how most of the menu options affect what DoubleSpace does to your hard disk.

Seasoned DOS users will not find the depth and breadth of information here that is offered in *DOS 6 Insider*. The common-sense tips that Gookin passes to the reader might also be gleaned by studying the Microsoft documentation. The book does not explain or comment specifically on the programming changes that were made in DoubleSpace, v6.2. There's no mention of DoubleGuard, and no discussion of the DoubleSpace .ini parameters. Yet the book is well written, with amusing analogies that may painlessly guide the DOS novice through installation of this new Microsoft feature.

PHOTOSHOP IN BLACK AND WHITE

Published By: Peachpit Press
List Price: $18.00
Reviewed By: Matthew Leeds


PHOTOSHOP
IN BLACK AND WHITE
An Illustrated Guide to Reproducing Black-and-White Images Using Adobe Photoshop
JIM RICH and SANDY BOZEK

While much of the focus on usage of Photoshop has centered around color images, it is also an excellent tool for working with black-and-white images. *Photoshop in Black and White* explains in exquisite detail how to adjust the tones in B&W images for reproduction and get consistent quality results.

The book explains how the halftone reproduction process works, how to calibrate your system for working with grayscale images, which tools in Photoshop you'll need to use, how scanners and output devices work with Photoshop, and is packed with tons of specific problem-solving details.

The amount of information delivered by this slim 48-page book is intimidating. The layout does little to diffuse this as it's cluttered, designed with tiny type, and introduces technical terms in rapid-fire progression (the included glossary is invaluable).

On the other hand, you can quickly learn the exact methodology required to fine-tune images and get great results. Step-by-step instructions are given for each process, and each process is laid out in a linear progression from calibration, scanning, adjustment, and output. It's one of the best speed-learning courses for the technology of print reproduction I've seen in quite some time. (Peachpit Press, 2414 Sixth St., Berkeley, CA 94710) ■

Best Price, Best Quality, Best Service
At World Net We Care!

486DX2-66 256K
VESA LOCAL BUS

- VESA 32 Bit VLB Motherboard w/ZIF
- Pentium OverDrive Ready
- Intel 80486DX2-66MHz CPU
- AMI BIOS
- Internal Clock/Battery
- 4MB RAM 70ns
- TEAC 1.2 Floppy Drive
- TEAC 1.44 Floppy Drive
- QUANTUM 270MB 12ms Hard Drive
- VESA VLB Super IDE w/2S/1P/1G
- Orchid Fahrenheit VLB w/1MB
- NEC 14" Low Radiation SVGA Non-Interlaced Monitor 0.28dp
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini-Tower
- 200 Watt Power Supply

SUPER SALE

$1499

486DX-33 64K
VESA Local Bus

- VESA 32 Bit VLB Motherboard w/ZIF
- Pentium OverDrive Ready
- Intel 80486DX-33MHz CPU
- AMI BIOS
- Internal Clock/Battery
- 4MB RAM 70ns
- TEAC 1.2 Floppy Drive
- TEAC 1.44 Floppy Drive
- W.D. 212MB, 13ms Hard Drive
- 32 bit VLB Super IDE Controller
- 32 bit Cirrus Logic VLB SVGA w/1MB
- 14" SVGA Monitor 1024x768 .28dp
- 2 Serial, 1 Parallel, 1 Game Port
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini Tower
- 200 Watt Power Supply

$1139

486SX-25 64K
VESA Local Bus

- VESA 32 Bit VLB Motherboard
- Intel 80486SX-25MHz CPU
- AMI BIOS & Math Co-Socket
- Internal Clock/Battery
- 4MB RAM 70ns
- 1.44 Floppy Drive
- IDE 2FD/2HD Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 170MB Conner 15ms Hard Drive
- Trident SVGA w/512K
- 14" SVGA Monitor 1024x768 0.28 dp
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini Tower
- 200 Watt P.S.

SUPER SALE

$799

Networking Software

Netware Lite	**$69**
Lantastic A1/5.0	**$89**

Novell Version 3.12

5 Users	$635
10 Users	1555
20 Users	2155
50 Users	2500

Networking Products

Novell 2 Station Starter Kit	***$169***
Lantastic 2 Station Starter Kit	***$269***

Including:

- 2 Copies of Novell Lite or LANtastic
- 2 NE 2000 16 bit Ethernet Adaptors
- 2 50 Ohm Cable Terminators
- 1-25 foot cable

Novell Additional Users	**$89**
[illegible] Additional Users	**139**

SUPER SALE

Ethernet Cards

16 bit NE2000	$43
16 bit NE2000 Twist Pair	43
8 Ports Concentrator	229
16 Ports Concentrator	439

VIDEO GRAPHIC CARD

Trident 8900C SVGA Card w/1MB	$59
Tseng ET-4000 w/1MB Hi-Color	69
Paradise Windows Accelerator w/1MB 64K Color	88
Genoa 8500 VLB w/1MB	118
Diamond Speed Star Pro VLB w/1MB	108
Diamond Stealth 24 w/1MB	148
Diamond Stealth 24 VLB w/1MB	148
Diamond Viper VLB 2MB VRAM	358
Orchid Fahrenheit 1280 Plus w/1MB	138
Orchid Fahrenheit VLB w/1MB	138
ATI Graphics Ultra w/Mouse	159
ATI Graphics Ultra Pro VLB w/2MB	318

MONITORS

Sony CPD 1430 0.25mm dp	$555
Sony CPD 17SE 1600x1280 0.25mm dp	1175
Nanao F340iw 1024x768 0.28mm dp	599
Nanao F550i 17" 1280x1024 0.28mm dp	823*
Nanao F550iw 1280x1024 0.28mm dp	1065
Nanao F560iw 17" 1280x1024 0.26dp	1350

*After $100 Mfg. Rebate through 3/31/94

Nanao F760iw 1280x1024 0.31mm dp	1999
NEC 1431 14" SVGA 0.28dp Low Radiation	309
NEC 3V 15" SVGA 0.28mm dp	525
NEC 3FGE 15" SVGA 0.28mm dp	575
NEC 4FGE 15" SVGA 0.28mm dp	665
NEC 5FGE 17" SVGA 0.28mm dp	1048
MAG 15F 15" 1280x1024 Low Radiation	Best Price 464
MAG 17F 17" 1280x1024 0.26mm dp	838
Viewsonic 6E 14" Non-Interlaced SVGA 0.28mm dp	276
Viewsonic 15" Low-Radiation Non-Interlaced SVGA 0.28mm dp	430
Viewsonic 17" Low Radiation Non-Interlaced SVGA 0.28mm dp	958
ADI 4G 15" 1280x1024 Non-Interlaced SVGA 0.28mm dp	388
Relisys 15" Flat Screen Non-Interlaced 1280x1024 0.28mm dp	348
CTX 14" SVGA Non-Interlaced 0.28 mm dp	258
14" SVGA 0.28 dp	Best Price 209

World Net
MICROSYSTEMS

World-Net Microsystems, Inc.
1503 North Milpitas Blvd.
Milpitas, CA 95035
(408) 263-8088
Fax (408) 263-4588

Terms and Conditions:

1. One Year parts and labor warranty on systems.
2. Knowledgeable technical support engineers in service.
3. Prices and availability subject to change without notice.
4. Shipping, insurance and COD charges are extra and nonrefundable.
5. Return shipping must be insured, prepaid and bearing an RMA# on the shipping label.
6. Defective items replaced or repaired at our discretion.
7. Not responsible for typos.
8. All returns subject to 15% restocking fee and cover only World-Net Microsystems brand computers excludes peripherals and software. No refunds after 30 days.
9. Superior reputation for service, quality and value.
10. Purchase orders are welcomed and subject to approval.
11. Price reflects cash discount.

New Milpitas Store Grand Opening

MULTIMEDIA 486DX-40 64K

- VESA 32 bit VLB Motherboard w/ZIF
- Pentium OverDrive Ready
- AMD 80486DX-40MHz CPU
- AMI BIOS
- 4MB RAM 70ns
- 1.2 Floppy Drive
- 1.44 Floppy Drive
- 170MB 13ms Hard Drive
- Tseng ET4000 w/1MB Hi-Color
- 14" SVGA Monitor 1024x768 .28dp
- IDE 2FD/2HD w/2S/1P/1G
- Panasonic CR-562B Double Speed CD-ROM
- Sound Blaster Comp. Sound Card
- Labtec Stereo Speaker
- Free Over $500 Value Test Drive CD Included
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini Tower Case w/200Watt P.S.

SUPER SALE

$1358

14,400 bps FAX/MODEM

- 14,440 bps Int Fax/Modem up to 57,600 bps throughput
- 100% Hayes Compatible
- V.32 bis 14,400 bps
- V.42 bis Error Correction
- MNP 5 Data Compression
- 14,400 bps G3 Fax Send & Receive
- 14,400 bps Data Modem
- Fast 16550 Chip
- CCITT V.32 bis/Bell 212A/103
- Caller I.D.
- Distinctive Ring
- Free Quicklink II for Windows

$99

CD-ROM SPECIALS

Panasonic CR-562B
Double Speed
Photo CD Compatible
Free Over $500 Value
Test Drive CD Included

$169

Toshiba 3401B
SCSI Interface
Double Speed
Photo CD Compatible
Free Over $500 Value
Test Drive CD Included

$325

CD ROM & SOUND CARD

MITSUMI CD-ROM Drive 350ms	$138
MITSUMI CD-ROM W/5 Title CD	205
TOSHIBA XM-3401 200ms	Best Price 325
Panasonic CR562 CD-ROM 320ms/300K	169
Creative Labs Discovery CD 8 Upgrade Kit	358
Creative Labs Edutainment CD16 Upgrade Kit	478
Pro Audio Spectrum 16	118
Pro Audio Studio	199
Sound Blaster Pro Deluxe w/CD	105
Sound Blaster Pro 16 Basic	135
Sound Blaster Pro 16 ASP MCD w/CD	189
80 Watt Stereo Speakers	79

CD TITLES

Adventure of Willy Beamish	$16
America Business Phonebook 1993	16
Arthur's Teacher Trouble	21
Barney Bear Goes to School	12
Barney Bear Goes to Space	12
Barnon's College Guide	18
Beauty and the Beast	16
Brain Drain	15
Carmen San Diego - Deluxe	18
Chessmaster 3000 MPC	16
Composer Quest	23
Compton's Multimedia Encyclopedia	49
Compton's Interactive Encyclopedia	85
Dictionary of Living World	18
Dinosaur Adventure	23
Dune	25
F117A Stealth & F15	23
Family Choice	18
Family Doctor	18
Family Education Collection	18
Game Pak II	18
Just Grandma and Me	28
Kings Quest V	15
Kings Quest VI	23
Kodak Photo CD Access	16
Loom	18
Lovely Ladies	35
MacMillan Dictionary for Children	18
Mayo Clinic Family Health Book	18
Mantis Experimental Fighter	15
Microsoft Bookshelf MPC	29
Microsoft Works for Windows	29
Mixed Up Mother Goose	15
Monkey Island - English	18
Nat'l Geographic Mammals	19
PC SIG 12 Shareware	19
Playing w/Languages - English	19
Playing w/Languages - French	19
Playing w/Languages - German	19
Playing w/Languages - Japanese	19
Playing w/Languages - Spanish	19
Return to Lork	23
San Diego Zoo/Animals	19
Seventh Guest - Virgin Games w/2CD	35
Sleeping Beauty	16
Space Adventure	19
Stellar Seven	15
Story Time	16
STW Grolier's Encyclopedia MPC	35
US History	16
Wing Commander	18
Who Killed Sam Rupert	16
5 CD Title Bundle	69

PRINTERS

HP DeskJet 500	$325
HP DeskJet 500C	399
HP DeskJet 550C	599
HP LaserJet 4L	699
HP LaserJet IIIP	949
HP LaserJet 4	1399
Panasonic KX-P 2123	228
Panasonic KX-P 2124	Best Price! 315
Panasonic KX-P 2624	378

ADD-ON CARDS

AT I/O (2S/1P/1G)	$15
IDE 2FD/2HD w/(2S/1P/1G)	15
DTC VESA Local Bus IDE 2FD/2HD, 2S/1P/1G	89
Future Domain SCSI 2FD/2HD Controller	58
Adaptec SCSI Adaptor 1542 CFK w/Kit	238
Adaptec SCSI EISA Controller 1742 BK w/Kit	399
Trackball (8000dpi)	35
MicroSoft Serial Mouse	42
MicroSoft Compatible Serial Mouse	14
PS/2 Compatible Serial Mouse	18
Logitech Serial Mouse Man	48
Logitech Bus Mouse Man	65
Logitech Trackman	75
Cordless Mouse	29

BRAND NEW DRIVES

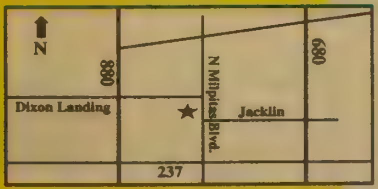
TEAC 1.44/1.2MB Floppy Drive	$38/48
Colorado Tape Backup 120MB/250MB	115/158
Tape Qic-80 3M DC2 120	18
Western Digital 212MB 13ms IDE	198
Western Digital 340MB 13ms IDE	278
Quantum 245MB/12ms (IDE)	218
Quantum 270MB 12ms IDE	228
Conner 540MB 12ms IDE/SCSI	495
Quantum 525MB 12ms IDE/SCSI	448/495
Conner 1.37GB 10ms SCSI	945
Quantum 1.2GB 10ms SCSI	945

MODEMS/FAX

Zoltrix 2400 Int. Modem w/9600 Send Fax	$28
Zoltrix 9600/2400 Fax/Modem w/Bit Fax for Windows	48
14,400 bps Int. Fax/Modem w/software for Windows	99
GVC 14,400 bps Ext. Modem	169
Zyxel 16,800 bps Fax/Modem (external IBM, MAC)	299

KEYBOARDS

101 Enhanced Keyboard	$15
Keytronic (Quiet) Keyboard	38
Fujitsu 101 Keyboard	48
Northgate Omni Key 101/102	78
Northgate OmniKey Ultra	98
Focus 2001/9000	38/58



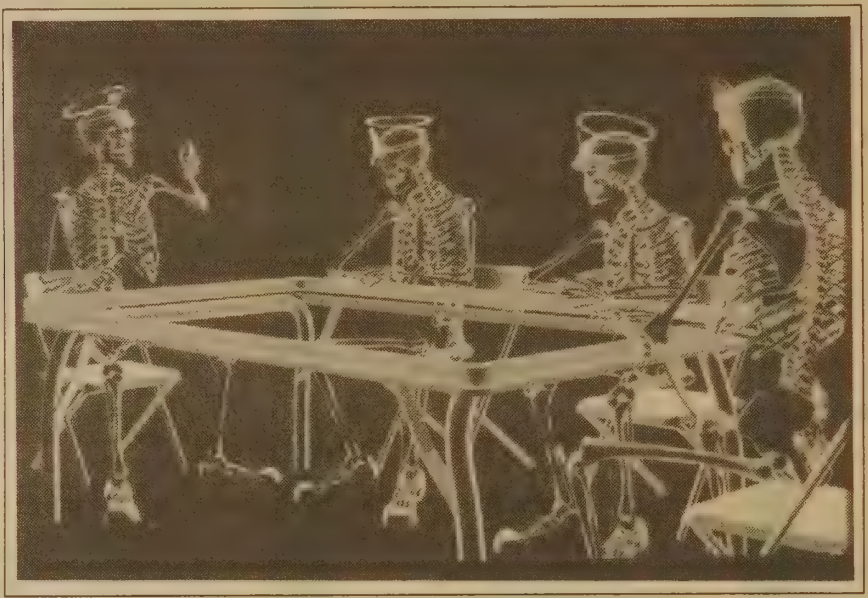
Business Hours:
Mon-Fri 9:00-6:00 • Sat 10:30-4:00

World Net
MICROSYSTEMS

World-Net Microsystems, Inc.
1503 North Milpitas Blvd.
Milpitas, CA 95035
(408) 263-8088
Fax (408) 263-4588

contiued from page 314

feel in space. Tom Coul, president of Sense 8, says, “World Toolkit for Windows puts a powerful simulation tool in the hands of Window’s developers and offers an entirely different approach to the human-machine interface paradigm. As developers use this product, it will spawn new and inventive ways to interact with the computer.”



From the movie *Toys* Courtesy Pacific Data Images/Viewpoint Datalabs

THE VIRTUAL STOCK MARKET

Using Sense 8’s World Toolkit, Paul Marshall, executive director of Maxus Systems International, developed a software program called Capri. Capri allows an investor to fly above or below a board of color-coded shapes representing stocks, bonds, and other investments to see what they are doing “visually.” A grid filled with boxes, looking like square city blocks from the air, has one axis that represents types of investments, and the other showing which stock market those investments are trading on—NY, Tokyo, or Hong Kong, for example. Each box is filled with chips; if a chip is red, it means the stock is down, blue means up, or gray not much change. The chips can be spinning or positioned differently to show various types of activity. You can toggle to printed information to investigate further any stock or investment you choose.

INDUSTRIAL DESIGN

Tom Rzonca (Rzonca Multimedia) is a multimedia developer who works extensively in industrial design. He will either create a model of a product in 3D Studio from scratch, or load an existing CAD file of a product into 3D Studio and then render the file using 3D Studio’s powerful renderer, so that the manufacturer can visualize what the finished product will look like.

“3D Studio has reached a level of maturity with Release 3 that’s difficult to compare to anything else on the PC platform, or any other platform for that matter,” says Rzonca. “With its 64-bit true color rendering and ray-traced shadows, the color is like nothing you’ve ever seen and the rendering speed has also been greatly improved. It blows Topas out of the water. Release 3 is a complete solution.”

> ”3D Studio has reached a level of maturity with Release 3 that’s difficult to compare to anything else on the PC platform, or any other platform for that matter.“
>
> —Tom Rzonca, Rzonca Multimedia

Rzonca is also currently developing a VR, product-prototyping application, using Autodesk’s Cyberspace Developer’s Kit combined with images created in 3D Studio, that “simulates” physical properties such as strengths, weaknesses, mass, density, or friction of various materials, like plastics and polymers, used in product design. This enables the manufacturer to make decisions about the best materials to build their product with before production begins; sort of a virtual materials-testing lab.

A VIEW TO A KILL

3D Studio is becoming the tool of choice among experts in the burgeoning field of forensic animation. It has the ability through the analysis of real world data to present a re-creation of physical events. The resulting flics are then output to video for courtroom viewing. Alex Jason (The Anite Group) pioneered the use of 3D Studio in a courtroom setting with the animation for the infamous Mitchell brothers murder trial. Jason is a ballistics specialist who has been involved with many shooting cases worldwide.

With no precedent to guide him, Jason has found some visually creative ways to present crime data. He animated the acoustics of a bullet’s sound waves using the morphing function of 3D Studio. Another of his animations takes you on a point-of-view (POV) ride along the bullet’s path of travel. He uses 3D Studio in combination with Autodesk Animator Pro to pull in actual crime scene and autopsy photos to show how all the evidence lines up. For example, in one case there was testimony that the victim was shot in the back, however, evidence proved that this was not possible. He emphasizes for the layperson that “the computer does not *solve* anything in these applications; it is a tool for visualization using the facts about the crime. The final piece is dependent upon the skill of the criminologist.”

According to Jason, “Using 3D Studio is a bit like the combination of a puzzle and a video game. You have the sophistication and power of the program itself that you use in different ways with each case to solve problems, combined with the reward

Dan Forbes
6410 Apaloosa Dr.
Tampa, FL 33625
(813)920-5328

CE3 Space Desig
Los Angeles, CA
(310)837-4450

IPAS Boutique
Yost Group,
Schrieber Inst.,
Inc.
4800 Happy
Canyon Rd.,
Ste. 250
Denver, CO 8023
1-800-368-4727

Pyros Partnershi
1201 Dove St.,
Ste. 550
Newport Beach, C
92660
(714)833-0334

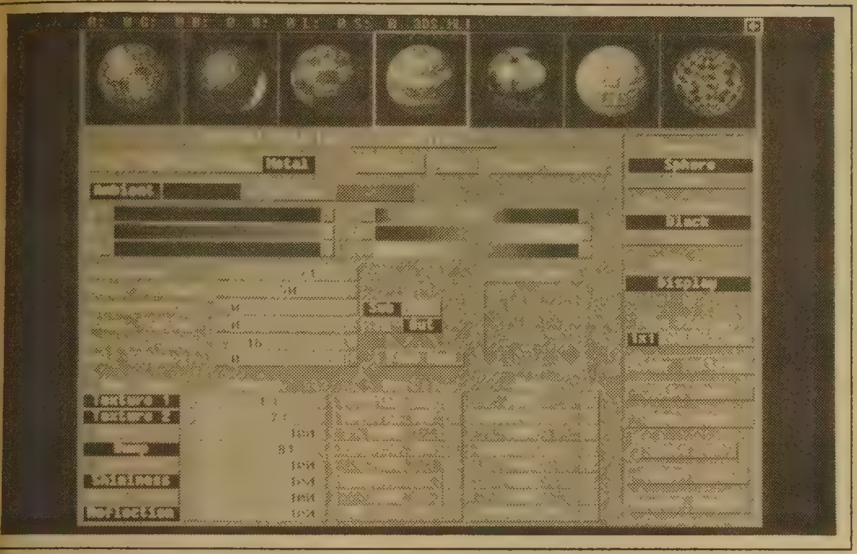
Mannequin
HumanCAD
1800 Walt
Whitman Rd.
Melville, NY 1174
(516)752-3568

Viewpoint
DataLabs
870 West Center
St.
Orem, UT 87057
1-800-DATASET

Tom & Helene
Knight
Imagination Wor
Los Gatos, CA
(408)354-5067

Carlos Newcom
Visions of Realit
San Francisco, C
(415)615-9595

Courtesy of Autodesk
The New and Improved Materials Editor in 3D Studio Release 3.



and excitement of how it will turn out." In the courtroom, "what makes 3D Studio so effective is that it shows the case visually. When you have to explain it just verbally it can be very difficult to follow: The victim walked ten feet south, the bullet traveled 30 degrees at a speed of so many miles per hour etc." He adds, "If one picture is worth a thousand words, then one crime animation is worth a thousand paragraphs of dry transcript details."

In a Salt Lake City trial the animation of a multiple murder was allowed into evidence. Based on expert testimony and the physical evidence, the dimensions and layout of the house where the crimes occurred were reconstructed in Autocad by Dan Forbes (The Software Machine) and then brought into 3D Studio for animation. The jury watched the murder unfold from the murderer's eyes—they watched his hands commit the murders as he walked through the house. The camera then panned to show the blood splatters all around him, which was not meant to sensationalize, but served as evidence to the manner in which the crimes were committed.

Forensic animation is an effective presentation in courtroom drama that is being used more often and is gaining acceptance among the legal community. It may someday be commonplace in the courtroom. Or, perhaps, instead of just watching the animation on video, the jurors might actually don a VR helmet and see for themselves, in a sort of "virtual court" what really happened.

ENTERTAINMENT AND VIDEO

Sony Imageworks uses 3D Studio for previsualizing movie scenes. This allows them to see how scenes will actually turn out before expensive film shoots take place. They create "digital" sets and props with AutoCAD and import them into 3D Studio. Release 3 features a projector camera that can play back any image as if through a projector's lens. Says Imageworks Vice President Frank Foster, "The sophistication of the cameras, the ability to simulate actual lenses on studio cameras, and the way we can move them and immediately see the changes is critically important when simulating feature film scenes." The ability to use 3D Studio brings the world of special effects down from the expensive, high-end platforms in "F/X" houses.

Richard Sher of CE3 Space Design, who uses 3D Studio for educational CD-ROM production and TV computer animation, says "3D Studio saves me expensive post-production house rental time with its ability to do compositing, mattes, and through the use of alpha channel. It's really helpful that glows, highlights, and transitions can be added using IPAS routines in 3D Studio's video post." Because TV pictures are overscanned, when going from the computer screen to TV playback the size of the image area is different, and, therefore the edges of your image may not fit on the screen. Release 3 has a "video safe" window that provides a guide to this boundary. Carlos Newcomb of Visions of Reality, a company that develops games and entertainment software, says "3D Studio was designed with video production in mind and this is where it shines, especially with the new gamma control in Release 3."

SPECIAL EFFECTS

If you want to create things like tornadoes, smoke, or flock behavior in birds, IPAS routines are external programs written in C that can be called from within 3D Studio to simulate real-world physics. They can also be used for other special effects like making an image completely in the brush stroke style of Van Gogh. 3D Studio comes with fourteen sample IPAS routines and third-party developers such as the Yost Group's IPAS Boutique (Schreiber Institute) or Pyros Partnership sell many other types.

MESHES AND MOTION LIBRARIES

Meshes are the building blocks of any animation, and while you can create your own 3-D meshes manually, they can often be time-consuming and technically difficult. A variety of meshes are also available through third-party vendors for import into 3D Studio. For example, human models are often used in forensic animation and in ergonomic studies for things like testing repetitive motion and angles of movement. They can be created in a program called Mannequin by HumanCAD. Viewpoint Datalabs offers a collection of meshes on CD-ROM that range from stegosauruses to cars, which you can browse through. They will then give you a code to unlock those images you wish to purchase. The skeletons viewed through X-Ray vision that look so realistic in the movie Toys were created from Viewpoint's fully articulated skeleton mesh and animated and rendered by Pacific Data Images.

If you want to animate your mesh model and make it dance or walk or swim, you can of course, use keyframing or other traditional animation methods, or you can use motion libraries, which are in essence "canned motion" that you link to your model to make it move in predetermined ways. Thomas and Helene Knight of Imagination Works sell these sophisticated motion libraries as well as fully lifelike, articulated human models and clothing maps.

> If one picture is worth a thousand words, then one crime animation is worth a thousand paragraphs of dry transcript details."
>
> —Jason Alex, The Anite Group

We are amidst a technological renaissance—not long ago many of these applications were unheard of, and not even remotely available for the PC. 3D Studio Release 3 presents thoughtful, practical improvements from the workstation-quality, 64-bit, true color rendering and ray traced shadows, to the improved materials editor and network rendering capabilities. Its extensibility gives it the scope and power to grow into many potential markets and bring to life many animators' visions. Given its long list of attributes it's no wonder that it is the industry leader in animation software for the PC. ■

ADVERTISER BY CITY INDEX

For your convenience, here is a list of advertisers by county and city. Please see the advertiser index on page 340 for the page number of the advertisement.

Marin/Solano County

Cotati
Halted Specialities

Mill Valley
Marketpro Shows

Novato
BCSA Computers

Petaluma
Pacific Coast Show Productions

San Rafael
Domino Computer Self Service Centers
Hi-Q Systems
Whole Earth Access

Vallejo
Domino Computer Self Service Center

Contra Costa County

Concord
AIM Computers
Backyard Computer
CC Net
Domino Computer Self Service Centers
Nordic Computers
Paradine Computers
Walnut Creek CD Rom
Whole Earth Access

El Cerrito
HD Computers
Positive Solutions
Wentek Computers

Lafayette
EFI's Discount Computer

Pleasant Hill
Computown
Paramont Computers
R-Computer
Port Chicago Loading Dock

Richmond
Evergreen Computer

San Ramon
Domino Computer Self Service Centers
Nordic Computers

Walnut Creek
Advance Computer
Alpha Fine Furniture
The Clone Zone
Computer Selection
Compu Mart
Systems Unlimited
The Computer Store

Alameda County

Albany
PC Ten

Berkeley
Acom, Inc.
Copy World
Domino Computer Self Service Centers
McTek Systems
MicroLink Data Systems
U.C. Computers
Whole Earth Access
Winners Circle Systems
UC Computer

Dublin
Comtek Computer
Kingstar Computer

Emeryville
Microtech Int.

Fremont
Acme
Amerisel
Bold Data Technology
Domino Computer
FRY's Electronics
Gigabytes
Golden Micro Computers
G&R Surplus
Infinit Systems
J&K Technology
King Star Computer
Libre Service Computer, Inc.
Micro Distribution Center
Microtech Int.
NCA Computer Products
Songtech International
Strata Remarketing
Swap Computer
Sysper Technologies
Tech Trend
UMAX
U Miracle Computer
USM Systems

Hayward
California Computer Company
CBE Systems
Computerland of Hayward
Cypress Computer
Domino Computer Self Service Centers
Kingstar Computer
MCT, Multi Connection Technology
Printer Works

Oakland
Domino Computer
Mercury Computers
MIS Services

Pleasanton
Comtek Computer
Domino Computer
Libre Service Computer, Inc.
Woodworks Furniture

San Leandro
Woodworks Furniture

Santa Clara County

Campbell
Domino Computer Self Service Centers
Fry's Electronics

Cupertino
Cupertino Computer
Woodworks Furniture

Los Altos
Domino Computer Self Service Centers
H45 Technology

Menlo Park
Alpha CD Imaging

Milpitas
Bay Computer
Beta Nineties Computer, Inc.
C.B. Memory & Computers
Comand Line Computers
Art Computer Tech
Computown
Domino Computer Self Service Centers
Elpin Systems
Ency Systems
Hi-Tech USA
Laitron Computer
Legend Computer
Netis
Spider Graphics
World Net Microsystems

Morgan Hill
Computer Outlet

Mt. View
Computown
Compucare
The Computer Store

Palo Alto
Access Computer
Comtek Computer
FRY's Electronics
New River
Palo Alto Micro
PC Warehouse
USM Systems

San Jose
AMT International
Big Bang Technology
CGI Technology
Clarity Tech
Computer Express
Domino Computer Self
Service Centers
Golden Gate Computer
International Microdevices
ISC Computers
JDR Microdevices
Miracle Computers
NCA Peripherals
Pixel USA
Prestige Computer
Value Store
Whole Earth Access
WIT International
Woodworks Furniture

Santa Clara
Access Computer Technologies
ASA Computers
Best Data Systems
Central Computer
C & J Computer
Cypress Computer
Comtek Computer
Domino Computer Self Service Centers
Edge Technology
Halted Specialities
Hitron Systems
Jemini Electronics
Peripherals Direct
PSC Computing
Saturn
Sonic Computer
Sunar System
Storage Systems Engineering
Symphony Computer
Tanstaafl
Technoland
USM Systems

Sunnyvale
Advance Computer
American Multi Systems
Aroma Computer
ASP Computer Products
Commandline Computers
Computer Selection
Corporate SystemCenter
Disk Drive Depot
Domino Computer Self Service Centers
FRY's Electronics
Golden Valley Systems
HD Computers
Hi-Q Systems
HKG Computers
Legend Computers
LTI Leopard Technology
NCA Peripherals
Network Associates
PC Warehouse
PromoX Systems
Schwab Computer
Top Data
United Microsytems
USM Systes

Santa Cruz County

Capitola
Libre Service Computer, Inc.

San Mateo County

Burlingame
Computer Swap

Daly City
Domino Computer Self Service Centers

Foster City
Laitron Computers
tote-a-lap
General Micro

Millbrae
Domino Computer Self Service Centers

Redwood City
Computer Selection

San Bruno
Comtek

San Carlos
Belmont Systems, Inc.
Hi-Tech USA
Woodworks Furniture

San Mateo
Acorn Computer
Now Electronics
Whole Earth Access

South San Francisco
Beta Nineties Computer, Inc.
Comet Microsystems
Computerland of Serramonte
Fastlink Network Products
Universal Computer Products
USM Systems

San Francisco County

San Francisco
Advance Computer
Clarity Technologies
CBE Systems
Comart Business Systems, Inc.
Compudata
Computer Selection
CRL
The Computer Store
Computown
Domino Computer Self Service Centers
Evernet Education Services
HD Sytstems
Horizon Training
ITS CD
Konicom
Libre Service Computer, Inc.
MicroLink Data Systems
Net USA
PBE Cellular
PC Net
Tital Systems, Inc.
USM Systems
Whole Earth Access

Sacramento County/ Stockton

Sacramento
Computer Leap
The Computer Store
Domino Computer Self Service Centers
Halted Specialties
HD Computers
Hi-Q Systems
Libre Service Computer, Inc.
Whole Earth Access

Stockton
Hi-Q Systems

Stantislaus County

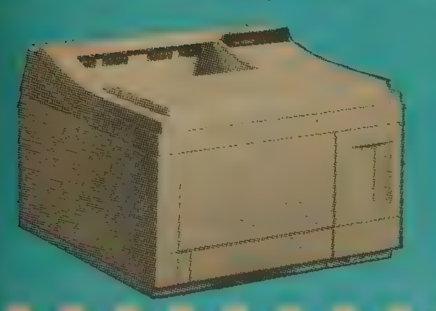
Modesto
Aroma Computer

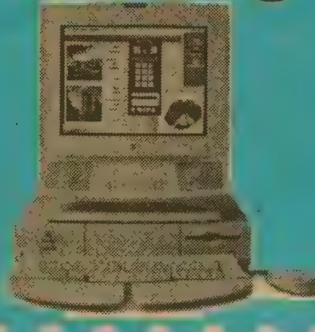
Out of State

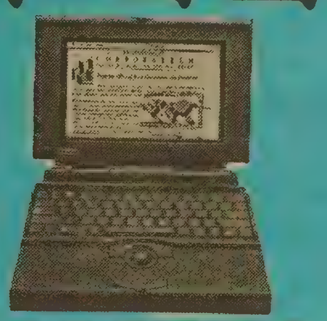
Nokia
Okidata
Computer Discount Warehouse

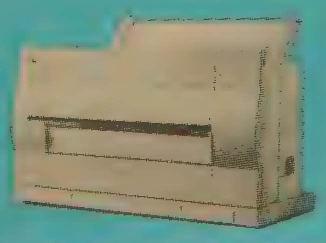
This index is provided as an additional service. Although we do our best to maintain accuracy, the Publisher does not assume liability for errors or ommissions.

THE PRICE LEADER









HEWLETT PACKARD

HP Printers & Scanners

HP LaserJet 4Si /4Si MX Printers	Call
HP Laserjet 4/4M Printers	Call
HP DeskJet 1200C Printer	Call
HP DeskJet 500 / 500C / 550C Printers	$289/389/589
HP DeskWriter / DeskWriter C / DeskWriter 550C	$289/389/589
HP LaserJet 4P/4MP Printers	Best Price!
HP DeskJet/Writer 310 InkJet Printer	$345
HP ScanJet IICX Scanner	Call
HP LaserJet 4L/4ML Printer	$669/1050

Apple® Macintosh®

Apple® Macintosh®

•Apple® Macintosh® LCIII 4/80	$825
•Apple® Macintosh Quadra® 605 8/160	$1199
•Apple® Macintosh Quadra® 610 8/160	$1349
•Apple® Macintosh Quadra® 840 AV 8/230 w/CD	Best Price
•Apple® Macintosh Quadra® 950 16/1 GB	$Call

Apple® Macintosh® PowerBook™

•Mac® PowerBook™ 165C 4/80	$1569
•Mac® PowerBook™ 165C 4/120	$Call
•Mac® PowerBook™ 180 4/80	$Call
•Mac® PowerBook™ 180 4/160	$Call
•Apple® Mac® PowerBook™ Duo 230 4/80	$Call

Apple® Macintosh® Printers & Monitors

•Apple® Macintosh® 13" Basic color	$235
•Apple® Macintosh® 15" Portrait	$Call
•Apple® Macintosh® 14" Color Plus	$319
•Apple® Macintosh® 14"/16"/21"	$Call
•Apple® StyleWriter® II	$299

Apple, the Apple Logo, Macintosh, StyleWriter, and LaserWriter are registered trademarks of Apple Computer, Inc. PowerBook, Macintosh Quadra, and PowerBook Duo are trademarks of Apple Computers, Inc Classic is a registered trademark licensed to Apple Computer, Inc.

OKIDATA

Okidata Printers

OL 400E 4pp 300dpi	$499
OL 410E 4pp 600dpi	$675
OL 810 8pp 300dpi Smoothing Technology	$859
OL 830+ Postscript 8pp 300dpi	$1069
ML 184	Best Price
ML 520/521	Best Price
ML 590/591	Best Price

MOTHERBOARDS

386SX-33MHz w/CPU	$85
386DX-40MHz 128K w/CPU	$120
486SX-25MHz w/CPU	$165
486DX-33MHz 128K w/Intel CPU	$385
486DX-50MHz 128K w/Intel CPU	$530
486DX2-66MHz 128K w/Intel CPU	$605
VESA LB 486DX-33MHz 256K w/Intel CPU	$395
VESA LB 486DX-50MHz 256K w/Intel CPU	$540
VESA LB 486DX2-66MHz 256K w/Intel CPU	$615
IBM 486SLC2-66MHz VLB MB w/CPU Math Chip & Heat Sink	$305
MODEMS	
Intel 14.4/14.4 Int/Ext	$189/209
Boca 14.4/14.4 Int/Ext	$169/189
US Robotics 14.4/14.4 Fax/Data Int.	$180
US Robotics 14.4/14.4 Fax/Data Ext.	$199
TAPE BACKUPS	
Colorado DJ 20 250MB	$170
IOMEGA 250	$239

Comart Offers Excellence in Service, Support and Price!

UPGRADES

286 System to 386DX-40 w/128K Cache, 4MB RAM	$315
286 System to 486SX-25 VLB/4MB RAM, 128K Cache	$395

MULTIMEDIA

CD ROMS

Toshiba	3401B 200ms	$399
	3401E 200ms	$529
NEC	84-1 280ms	$540
	74-1 280ms	$625
TEXEL	3024	$385
	5024	$55
Mitsumi CD Int. w/Adapter		$199
SONY Double Speed #561 w/Adapter		$449

Multimedia Kit
- Panasonic CD ROM
- Sound Card
- Speakers
- 7 CD Titles

$399

Sound Cards
- Zoltrix Audio Plus
- Sound Blaster Pro
- Sound Blaster 16
- Sound Blaster 16 ASP
- Sound Blaster 16 ASP w/SCSI

Specializing in corporate accounts. We carry name brand systems, products, and offer personalized service.

486DX VESA LOCAL BUS SYSTEM

486DX-33MHz	$1339
486DX-50MHz	$1479
486DX2-66MHz	$1545

- Intel CPU w/8K int. cache & math coprocessor
- 128K ultra fast external cache
- 4MB RAM (Exp. 32MB)
- 1.2MB & 1.44MB floppy drives
- 250MB IDE Hard Disk
- 1:1 2H/2F IDE controller (2S, 1P & 1G)
- VLB SVGA Card w/1M (2M Max)
- 14" Full Screen SVGA Non-Interlaced
- Monitor (1024x768) .28dp
- 101 Enhanced Keyboard
- Mini Tower Case w/LED Display

486SLC2-66MHz VLB SYSTEM

$1189

- System board manufactured by IBM
- IBM 486SLC2-66MHz CPU
- 16K Internal Cache
- 64K External Cache
- On board math co-processor & heat sink
- 4MB RAM
- 210MB IDE HD
- 1.2MB Floppy &1.44MB FD
- 1:1 2H/2F IDE controller (2S, 1P & 1G)
- 32 Bit VLB SVGA card w/1M (2M max)
- 14" full screen SVGA Color Monitor (.28dp)
- 101 Enhanced Keyboard
- Mini Tower Case w/LED Display

INTEL 486SX-25 COMPLETE SYSTEM

$949

- Intel 486SX-25MHz CPU
- 8K of internal cache
- 4MB Memory
- 1.2MB & 1.44MB Floppy Drives
- 250MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- Clock/Calendar
- 2 Serial, 1 Parallel, 1 Game Port
- 16-Bit SVGA Card (1024x768) w/512K
- 14" Super VGA Monitor (1024x768) .39 Dot
- 101 Enhanced Keyboard, Mouse
- Mini Tower Case w/PS

Great System for Beginner

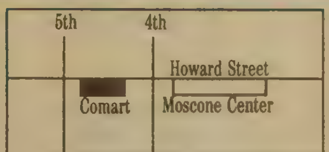
486DLC-33MHz MULTIMEDIA SYSTEM

$1239

- 486DLC-33MHz CPU, AMI BIOS
- 64K External Cache (Exp. to 256K)
- 4MB RAM
- 170MB IDE Hard Disk
- 1.2MB & 1.44MB Floppy Drives
- 1:1 2H/2F IDE Controller (2S, 1P, 1G)
- 16-Bit SVGA Card (1024x768) w/1M
- 14" full screen SVGA Monitor (.39dp)
- Mini Tower Case w/LED Display
- 101 Enhanced Keyboard
- Panasonic CD-ROM
- Sound Blaster Sound Card w/4 CD Titles

COMART

COMART BUSINESS SYSTEMS, INC.
843 Howard Street • San Francisco, CA 94103



Easy Financing

Phone 415-896-1765

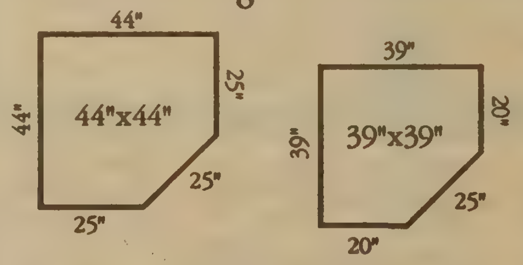
Fax 415-896-2582

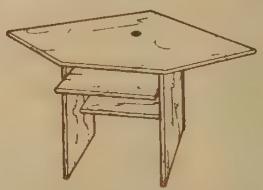
Store Hours:
Mon. Thru Fri. 9:00-5:30 • Sat. 11:00-4:00

VISA

ADVERTISERS INDEX

COMART BUSINESS SYSTEMS ... 339
A. JACKSON ASSOCIATES ... 58
ACCESS COMPUTER TECHNOLOGY .. 136-151
ACCORD SYSTEMS ... 66
ACOM, INC. ... 78
ACORN COMPUTER ... 133
ADVANCE COMPUTER SYSTEMS ... 4
ADVANCE COMPUTER SYSTEMS ... 5
AIM COMPUTERS ... 108
ALPHA CD IMAGING ... 298
ALPHA FINE COMPUTER FURNITURE . 340
AMERICAN MULTI SYSTEMS ... 6
AMERISEL ... 59
AMT INTERNATIONAL ... 113
AROMA TECH, INC. ... 106,107
ART COMPUTER, INC. ... 110,123
ASA COMPUTERS ... 116-119
ASP COMPUTER PRODUCTS ... 10
AUTHORIZED TECHNICAL SERVICES .. 315
BACKYARD COMPUTER SERVICES ... 74
BAY COMPUTER ... 131,311
BCSA COMPUTERS ... 285
BELMONT SYSTEMS, INC. ... 120,121
BEST DATA SYSTEMS ... 1279
BETA NINETIES COMPUTER ... 23
BIG BANG TECH ... 284
BOLD DATA TECHNOLOGY ... 76,77
C.B. MEMORY & COMPUTERS ... 204
C.G.I. TECHNOLOGY ... 104
CALIFORNIA COMPUTER COMPANY ... 87
CBE SYSTEMS ... 206
CC NET ... 66
CENTRAL COMPUTER SYSTEMS . 258-262
CERTIFIED NETWORK EDUCATORS ... 102
CLARITY TECHNOLOGIES ... 58
COMART BUSINESS SYSTEMS ... 339
COMET MICRO SYSTEMS ... 111
COMMAND LINE COMPUTER ... 21
COMPU DATA ... 157
COMPUMART ... 67
COMPUTER CARE ... 81
COMPUTER SELECTION ... 65
COMPUTER SWAP ... 56
COMPUTERLAND OF HAYWARD ... 57
COMPUTERLAND OF SERRAMONTE ... 30
COMPUTOWN ... 60,61
COPY WORLD ... 161
CORPORATE SYSTEMS CENTER ... 24
CRL ... 91
CUPERTINO COMPUTER ... 12
CYPRESS COMPUTERS ... 205,296
CYPRESS COMPUTERS ... 296
DISK DRIVE DEPOT ... 3
DOMINO COMPUTER ... 11
EDGE TECHNOLOGIES, INC. ... 16
EFI'S DISCOUNT COMPUTER ... 161
EVERGREEN COMPUTER INT'L ... 268-270
EVERNET EDUCATION SERVICES ... 80
FASTLINK NETWORK PRODUCTS ... 163
FRY'S ELECTRONICS ... 2,171-201, 343
GENERAL MICRO ... 99
GIGABYTES ... 92,206
GOLDEN MICRO COMPUTER ... 305
GOLDEN VALLEY SYSTEMS ... 275
GR ELECTRONIC SURPLUS ... 102
GREENLEAF INTERNATIONAL ... 53
H D SYSTEMS ... 33-48
H45 ... 91
HALTED SPECIALTIES ... 297
HAMILTON MULTIMEDIA SYSTEMS ... 291
HI-TECH USA ... 158,159
HIQUALITY SYSTEMS, INC. ... 93-97
HITRON SYSTEMS ... 208,209
HKG COMPUTERS ... 287
HT ELECTRONICS ... 294
INFINITI SYSTEMS ... 127
INPUT AUTOMATION ... 82
INTERNATIONAL MICRO DEVICES ... 104
ISC COMPUTERS ... 156
ITS CD ... 284
J & K TECHNOLOGIES ... 12
JDR MICRODEVICES ... 69
JEMINI ELECTRONICS ... 300,301
KINGSTAR COMPUTER ... 9
KONICOM ... 114
L.A. COMPUTER FAIR ... 154
LAITRON COMPUTER ... 282,283
LEGEND COMPUTER ... 257
LIBRE SERVICES COMPUTER, INC. .. 50,51
LINDEN MICROTECH ... 207
LOGITECH ... 135
LTI LEOPARD TECHNOLOGIES ... 295
M.A.C. ... 168
MARKET PRO ... 248
MCT ... 277
MCTEK SYSTEMS ... 289
MDS COMPUTERS ... 18,19
MERCURY COMPUTER ... 70,71
MICRO DISTRIBUTION CENTER ... 109
MICROTECH INTERNATIONAL ... 28,29
MIRACLE COMPUTER ... 129
MULTI MICRO SYSTEMS ... 105
NCA COMPUTER PRODUCTS ... 212-241
NET USA ... 324
NETIS ... 101
NETWORK ASSOCIATES CORP. ... 293
NETWORK INNOVATIONS ... 163
NEW RIVER ... 272,273
NORDIC COMPUTERS ... 341
NORM DE NARDI ENTERPRISES ... 329
NOW ELECTRONICS ... 264,265
OKIDATA ... 73
PALO ALTO MICRO ... 10
PARADINE COMPUTERS ... 326,327
PARAMOUNT COMPUTER ... 165
PARS INTERNATIONAL COMPUTER ... 90
PBE CELLULAR ... 86
PC NET ... 22
PC WAREHOUSE ... 103
PERIPHERALS DIRECT ... 26
PIXEL USA COMPUTER ... 308-309
PORT CHICAGO'S LOADING DOCK ... ?
POSITIVE SOLUTIONS CORP. ... 281
PRESTIGE COMPUTER ... 152,153
PRINTER WORKS ... 15
PROMOX SYSTEMS ... 299
QUARTERDECK OFFICE SYSTEMS ... 344
R-COMPUTER ... 245
RAINBOW COMPUTER ... 267
SATURN TECHNOLOGY, INC. ... 296
SCHWAB COMPUTER CENTER ... 112
SOFTMATE SYSTEMS ... 303
SONGTECH INTERNATIONAL, INC. ... 332
SONIC COMPUTER ... 211
SPIDER GRAPHICS ... 115
STORAGE SYSTEMS ENGINEERING ... 274
STRATA REMARKETING ... 298
SUNAR SYSTEMS ... 92
SYMPHONY COMPUTER ... 255
SYSTEMS UNLIMITED ... 52
TECH TREND, INC. ... 84
TECHNOLAND ... 203
THE COMPUTER STORE ... 63
TITAL SYSTEMS ... 243
TOP DATA ... 75
TOTE-A-LAP ... 27
TSL CORPORATION ... 89
U-MAX TECHNOLOGIES ... 54
UMIRACLE MICROSYSTEMS ... 249-253
UNITED MICROSYSTEM, INC. ... 243
UNIVERSAL COMPUTER PRODUCTS .. 122
UP SOFTWARE ... 306
USM DISTRIBUTORS ... 166,167
NEW RIVER ... 272,273
VALUE STORE ... 8
WALNUT CREEK CDROM ... 306
WEDGE TECHNOLOGY ... 246,247
WHOLE EARTH ACCESS ... 13
WINNER'S CIRCLE ... 83
WIT INTERNATIONAL ... 160
WOODWORKS FURNITURE ... 68
WORLD-NET MICROSYSTEMS ... 334,335





Great Corner Desk
Perfect for Large Color Monitors

- Free-Standing
- Great Use of Corner Space
- Matching Desks, Printer Stands, File Cabinets, and Hutches

Great Selection Warehouse Pricing

ALPHA
FINE COMPUTER FURNITURE

(800) 974-0277 • (510) 930-0277
2241 N. Main, Walnut Creek
Open M-F 9:30-5:30 Sat 10-5

This index is provided as an additional service. Although we do our best to maintain accuracy, the publisher does not assume liability for errors or omissions.

Lifetime
In-Store Labor
Warranty
1 Year Warranty
On Parts

PEOPLE WHO KNOW BUY FROM NORDIC

OVER 19,000 SYSTEMS SOLD!

NORDIC COMPUTERS

GREAT PRICE

486DX2-66 VESA LOCAL BUS SYSTEM

w/Hard Drive & Super VGA Monitor

486DX2-66, 3VLB Slots 256K Cache
4 MB RAM, 70ns
ISA Hard Drive & Controller
Viewsonic 4E SVGA Monitor (.28dp)
Teac 1.2 & 1.44 Floppy Drives
2 Serial, 1 Parallel Port
Maxiswitch or Keytronic Keyboard
Medium Tower Case
DOS 6.2 w/Manual
Lifetime Labor Warranty, 1 yr. parts

SVGA 245MB	SVGA 345MB	SVGA 540MB
$1729	$1789	$2059

GREAT PRICE

MULTIMEDIA VESA LOCAL BUS SYSTEM

w/Hard Drive & Super VGA Monitor

486-33DX, 3 VLB Slots 256K Cache
Same as 486-33 Configuration

PLUS

Texel CD-ROM, 245ms
Viewsonic 15E SVGA Monitor (.28 dp)
Genoa VESA Video Card
Sound Card, Speakers
3-button Mouse
Medium Tower Case
•OPTION WIN-TV $482 ADDITIONAL
Upgrade to 486DX2-66.............**$249**

SVGA 245MB	SVGA 345MB	SVGA 540MB
$2079	$2139	$2399

Multimedia UPGRADES

- Double Speed CD-ROM
- Sound Blaster Compatible Sound Card
- Quickshot Warrior Joystick
- Shielded PC Speakers
- Award Winning Apogee Sound-Supported Games

$289

Media Vision Fusion 16 Double CD-ROM

- NEC Internal CD-ROM
- Fusion 16 Bit Sound Card
- Stereo Speakers
- 2 CD-Titles Including Comptons Interactive Encyclopedia

$539

CUSTOM CONFIGURATIONS AVAILABLE — CALL FOR QUOTES

486-33/40 System

VESA LOCAL BUS

33 or 40MHz, 3VLB Slots
Intel or AMD CPU Chip
4 MB RAM, 70ns
Noise Killer
IDE Hard Drive
Viewsonic 4E SVGA Monitor
Teac 1.2 & 1.44 Floppy Drives
2 Serial/1 Parallel Port
Enhanced Keyboard
DOS 6.2 with manual
Lifetime Labor Warranty,
1 yr. parts

SVGA 210MB	SVGA 270MB	SVGA 345MB
$1445	$1469	$1519

486SX-33 System

VESA LOCAL BUS

33MHz, 3VLB Slots
4MB RAM, 70ns
IDE Hard Drive
Viewsonic 4E SVGA Monitor
Teac 1.2 & 1.44 MB Floppy Drives
Enhanced Keyboard
2 Serial, 1 Parallel Port
DOS 6.2 with Manual
Lifetime Labor Warranty,
1 yr. parts

SVGA 131MB	SVGA 245MB	SVGA 345MB
$1215	$1269	$1329

386-40 System

w/Hard Drive & Monitor

40MHz (Upgradable Board)
Noise Killer
4 MB RAM, 70ns
IDE Hard Drive
Super VGA Monitor
Teac 1.2 & 1.44 MB Drives
2 Serial/1 Parallel Port
Enhanced Keyboard
DOS 6.2 with manual
Lifetime Labor Warranty,
1 yr. parts

MVGA 131MB	SVGA 131MB	SVGA 210MB
$969	$1139	$1169

System Add-Ons

96/24 Fax/Modem	$45
14.4/14.4 Fax/Modem	$129
Serial Mouse	$15
Additional Memory, per MB	CALL
Teac 1.2 Floppy/1.44 Floppy	$54/44
CPU Cooling Kit	$17
Zoltrix Audio Pack	$68
Texel CD-ROM, 245ms	$329
Lithium Battery	$10
Noise Killer	SALE $39

System Upgrades

386-40DX Upgrade Kit	$349
486-33DX Upgrade Kit	$619
486DX2-66 Upgrade Kit	$859

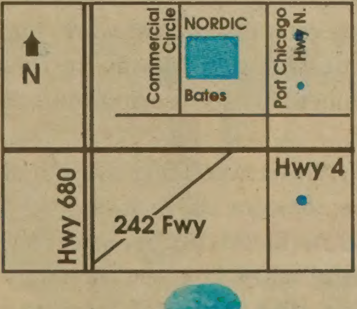
Kits include: VESA Motherboard, CPU & 4MB of Memory (Installation extra)

NORDIC COMPUTERS
CONCORD

5060 COMMERCIAL CIRCLE, UNIT A
CONCORD, CA 94520

(510) 687-3050

M-F 9:00-6:00 • Thur till 7:30 • Closed Sat

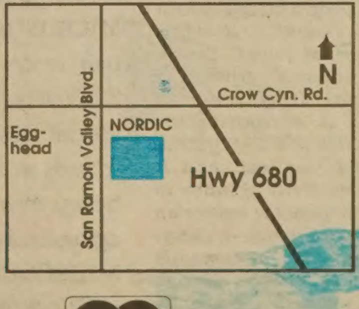


NORDIC COMPUTERS
SAN RAMON

2438 SAN RAMON VALLEY BLVD.
SAN RAMON, CA 94583

(510) 743-9390

M-F 9:00-6:00 • Open Sat 10:00-4:00



VISA

Prices subject to change without notice. Dealer inquiries welcome.

MasterCard

Internet Humor

Or

When Will They Stand Up And Be Counted?

BY JOHN C. DVORAK

The time has come when the humor floating around free on the Internet is funnier (and better written) than anything I can do.

Urban folklore, of course, is the group effort of the collective unconscious. Even when one person does it, there is something mystical about the whole creation that puts it into the limelight—makes it part of universal folklore. (Hey, I took the Dundes Folklore classes at Berkeley—I'm convinced.) The amount of Urban Folklore floating around the Internet is unbelievable. There are 30K of Bobbitt jokes on the Internet.

Anyway I was combing through my Internet-based joke file and found one that was written about Microsoft, but could easily be rewritten for many Silicon Valley companies.

DVORAK'S LAST COLUMN

Thanks to the authors who released this to the world.

Copyright © 1994 by John C. Dvorak. All rights reserved. John C. Dvorak graduated from the University of California. He is a contributing editor of PC Magazine *and* MacUser, *and is considered by many to epitomize the contrarian view of things—a charge that he vehemently denies. Dvorak's motto is: If you have nothing nice to say, then don't say anything at all.*

BURNOUT PREVENTION AND RECOVERY

Conventional Wisdom vs. The Microsoft View

1. STOP DENYING. Listen to the wisdom of your body. Begin to freely admit the stresses and pressures which have manifested physically, mentally, or emotionally.
MICROSOFT VIEW: Work until the physical pain forces you into unconsciousness.

2. AVOID ISOLATION. Don't do everything alone! Develop or renew intimacies with friends and loved ones. Closeness not only brings new insights, but also is anathema to agitation and depression.
MICROSOFT VIEW: Shut your office door and lock it from the inside so no one will distract you. They're just trying to hurt your productivity.

3. CHANGE YOUR CIRCUMSTANCES. If your job, your relationships, a situation, or a person is dragging you under, try to alter your circumstances, or if necessary, quit.
MICROSOFT VIEW: If you feel something is dragging you down, suppress these thoughts. This is a weakness. Drink more coffee. (It's free.)

4. DIMINISH INTENSITY IN YOUR LIFE. Pinpoint those areas or aspects which summon up the most concentrated intensity and work toward alleviating that pressure.
MICROSOFT VIEW: Increase intensity. Maximum intensity = maximum productivity. If you find yourself relaxed and with your mind wandering, you are probably having a detrimental effect on the stock price.

5. STOP OVER-NURTURING. If you routinely take on other people's problems and responsibilities, learn to gracefully disengage. Try to get some nurturing for yourself.
MICROSOFT VIEW: Always attempt to do everything. You *are* responsible for it all. Perhaps you haven't thoroughly read your job description.

6. LEARN TO SAY "NO." You'll help diminish intensity by speaking up for yourself. This means refusing additional requests or demands on your time or emotions.
MICROSOFT VIEW: Never say no to anything. It shows weakness, and lowers the stock price. Never put off until tomorrow what you can do at midnight.

7. BEGIN TO BACK OFF AND DETACH. Learn to delegate, not only at work, but also at home and with friends. In this case, detachment means rescuing yourself for yourself.
MICROSOFT VIEW: Delegating is a sign of weakness. Let someone else do it (See #5).

8. REASSESS YOUR VALUES. Try to sort out the meaningful values from the temporary and fleeting, the essential from the nonessential. You'll conserve energy and time, and begin to feel more centered.
MICROSOFT VIEW: Stop thinking about your own problems. This is selfish. If your values change, we will make an announcement at the company meeting. Until then, if someone calls you and questions your priorities, tell them that you are unable to comment on this and give them the number for Microsoft Marketing. It will be taken care of.

9. LEARN TO PACE YOURSELF. Try to take life in moderation. You only have so much energy available. Ascertain what is wanted and needed in your life, then begin to balance work with love, pleasure, and relaxation.
MICROSOFT VIEW: A balanced life is a myth perpetuated by the Borland Marketing Team. Don't be a fool: the only thing that matters is work and productivity.

10. TAKE CARE OF YOUR BODY. Don't skip meals, abuse yourself with rigid diets, disregard your need for sleep, or break the doctor appointments. Take care of yourself nutritionally.
MICROSOFT VIEW: Your body serves your mind, your mind serves the company. Push the mind and the body will follow. Drink Mountain Dew. (It's free.)

11. DIMINISH WORRY AND ANXIETY. Try to keep superstitious worrying to a minimum—it changes nothing. You'll have a better grip on your situation if you spend less time worrying and more time taking care of your real needs.
MICROSOFT VIEW: If you're not worrying about work, you must not be very committed to it. We'll find someone who is.

12. KEEP YOUR SENSE OF HUMOR. Begin to bring joy and happy moments into your life. Very few people suffer burnout when they're having fun.
MICROSOFT VIEW: So, you think your work is funny? We'll discuss this with your manager on Friday. At 7:00 pm. ■

—Author Unknown

Savings Headquarters

FRY'S AND HP KNOW HOW TO MAKE WAVES!

HEWLETT PACKARD
Authorized Dealer

DeskJet 520
Inkjet Printer

Clear, sharp, professional-quality black output with 600 x 300 dpi black printing, HP's Resolution Enhancement technology for smooth, crisp characters, fast text printing at up to 3 ppm, 256 levels of grayscale, energy efficient, and has a three year limited warranty.
#1888519

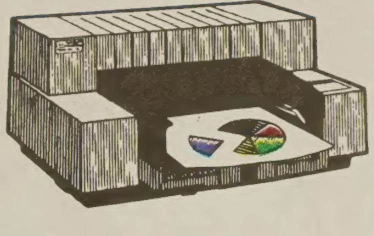
CALL FOR BEST PRICE

DeskJet 560C
Color Inkjet Printer

Outstanding print quality in black and color. This clear, sharp, professional-quality with 600 x 300 dpi black output has HP's Resolution Enhancement technology for smooth, crisp characters, fast text printing at up to 3 ppm for black and 4 ppm for color. 256 levels of grayscale, is energy efficient, and has a three year limited warranty.
#1888542

CALL FOR BEST PRICE

HEWLETT PACKARD
Authorized Dealer



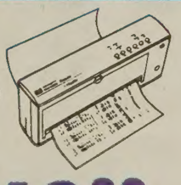
DeskJet 500C
Color InkJet Printer

COLOR INKJET OUPUT AT 300 DPI!

- Prints in Color
- Black and White
- 100 Sheet Paper Feeder
- Whisper Quiet
- 3 Year Warranty

#1632480

$398.95



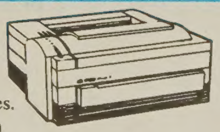
DeskJet 310
Portable Inkjet Printer
With Color Option (Sold Separately)

- Crisp 300 dpi black and optional color printing anywhere.
- Fast. Up to 3 pages per minute.
- Compact and light weight for easy portability
- Lightweight international power adapter with automatic voltage switching
- Works with major DOS applications and all Windows applications. Portrait and landscape printing with 84 typeface, size and style combinations

#1842038

$349.99

LaserJet 4L

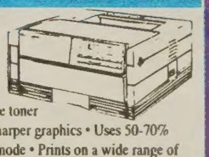


- 26 built-in scalable typefaces let you shrink and enlarge type to thousands of sizes.
- 300 DPI Laser printing with HP Resolution Enhancement technology and microfine toner for smooth, sharp text and graphics.
- 1MB standard memory with Memory Enhancement technology effectively doubles your printer memory.

#1786963

$639.95

LaserJet 4P

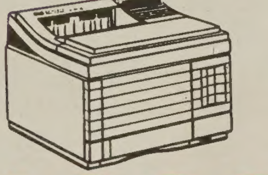


- True 600 x 600 dpi printing for four times the resolution of conventional 300 dpi printers
- HP Microfine toner and Resolution Enhancement technology for smoother, sharper graphics
- Uses 50-70% less energy than comparable laser printers in Powersave mode
- Prints on a wide range of paper sizes and types including mailing lables, postcards, envelopes and index cards
- Enhanced HP PCL 5 for seamless compatibility with the HP LaserJet 4 printer
- 45 built-in scalable typefaces
- 2MB standard memory, expandable to 26MB

#1842050

$979.95

LaserJet 4

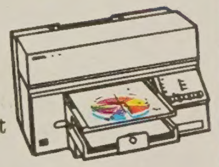


- Fast 8ppm printing for complex documents
- 45 Scalable Fonts
- 2MB RAM
- 600 DPI Print Quality at a 300 DPI Price
- 300 Page Paper Capacity
- Ideal for Windows and Graphics
- Optional Full Network Capabilities

#1734140

$1399

DeskJet 1200C

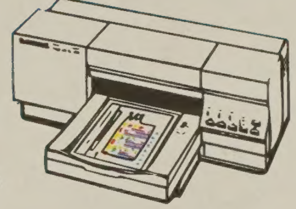


- 600 x 300dpi black text at up to 7 pages per minute produces high-quality output at business speed.
- 300dpi color at 1 to 2 minutes per page creates fast, high-quality output with bold, brilliant colors and true black.
- Plain-paper printing for both black and color saves money and allows convenient use of common office paper stationary.
- Built-in high-speed Centronics interface and optional HP JetDirect cards provide powerful, flexible connectivity.

#1786974

$1399

HEWLETT PACKARD
Authorized Dealer



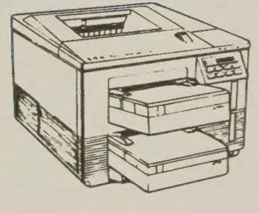
Color PaintJet XL300
HP C2856A Color Graphics Ink Jet Printer

- 300 DPI Plain Paper
- 200 CPS NLQ
- Prints on Transparency Film & Paper
- 360 Colors addressable, over 16.5 million color available

#1688986

$2199.99

HEWLETT PACKARD
Authorized Dealer



LaserJet 4Si

- Expandable and flexible, excellent for networks
- Fastest HP LaserJet printer at 17 ppm
- Multiple language capability with auto switching
- True 600 x 600 dpi printing with REtand microfine toner
- 75,000 page/ month duty cycle and flexible paper-handling
- HP quality and reliability

#1779583

$3299.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

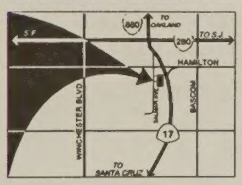
Prices Good Through March 29, 1994

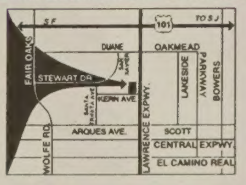
Limit Rights Reserved
Not Responsible For
Typographical Errors

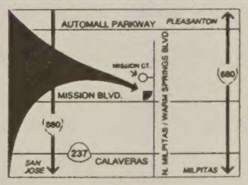
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

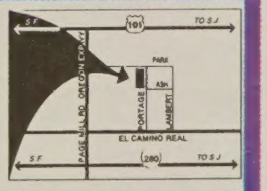
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX #'s









CAMPBELL	SUNNYVALE	FREMONT	PALO ALTO
600 E Hamilton Ave.	1177 Kern Ave.	440 Mission Ct.	340 Portage Ave.
(408) 364-3700	(408) 733-1770	(510) 770-FRYS(3797)	(415) 496-6000
(408) 364-3595	(408) 735-6800	(510) 770-3700	(415) 496-6044

Conquer Memory

Nothing masters memory like QEMM®.

And now, for just a few dollars more than you would pay for QEMM alone, get QEMM 7 with some of the hottest games around

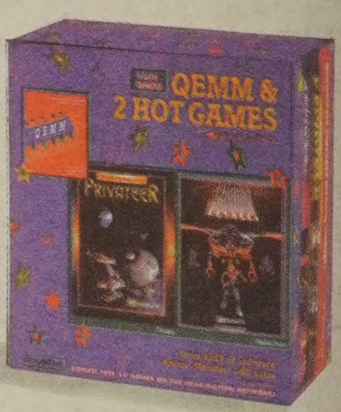
Game Pack 1

Quarterdeck
INCREDI
SPECIA
SOLD OUT

Game Pack 2

QEMM & 2 HOT GAMES

Game Pack 3



QEMM was once the power users' secret. Now it's the power players' secret. As Compute Magazine's reviewer said: *"If you're a power user who wants to play with the monster games, then MemMaker probably won't free enough memory. You'll need Quarterdeck's QEMM 7 memory manager utility, which not only will free up more than enough memory but will even optimize parts of your multiply-configured system."* No wonder it's the number one selling PC utility.

And now, it's virtually free when you buy our game packs. Check with your favorite retailer or call Quarterdeck direct.

With QEMM on your side, you'll never be defeated by the memory monster again.

Game Pack 2 includes the hot *Aces of the Pacific*, a realistic World War II fighter simulation and *Front Page Sports: Football*, a super-detailed sports simulation.

Game Pack 3 features *Shadow Caster*, the exciting graphic role-playing game and *Privateer*, a challenging space adventure in the Wing Commande Series.

Quarterdeck

CompUSA
Santa Clara (408) 345-4100
San Bruno (415) 244-4700

Fry's
Palo Alto (415) 496-6000
Fremont (510) 770-3797

Software Etc.
Fairfield (707) 428-6121
San Jose (408) 281-0872

Electronics Boutique
San Francisco (415) 564-7567
Concord (510) 682-5449

800 SOFTWARE
Richmond (800) 888-4880

Quarterdeck Direc
(800) 354-3222